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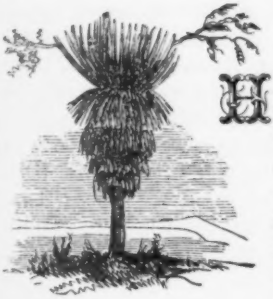


Hints on Grape Culture.—XVI.

HAVING gone through with the first year's care of the vineyard, we proceed seriatim with a description of the second year's routine. The treatment of the vine during the second year does not differ very materially from that recommended for the first. If the vines were not pruned in the fall, it must be done early in the spring. It will be necessary to cut all the vines down to three buds; for it is in this way only that canes sufficiently stout for arms can be obtained, or, indeed, for any good system of training. If the vines were pruned and covered in the fall, they should be uncovered as soon as the frost is out of the ground. The only mischance that can happen to them after this from cold weather will be from frosts that happen when the vines are breaking into flower. The dormant buds are in no danger from freezing after the severity of the winter is past. There is danger, however, in leaving the vines covered till late in the season, especially if left till the buds begin to break. The young shoot is brittle enough at all times, but is rendered still more so by allowing the buds to break under cover, and the handling, under such circumstances, however carefully done, must result in the destruction of many young shoots, and consequent permanent injury of the vine. We mention this matter particularly at this time to meet several cases which have recently come to our knowledge, and also because it has been recommended by some to leave the vines covered till vegetation begins.

The vines having been pruned, plowing will be the next thing in order. This

should be done precisely as recommended for the first year, care being taken not to injure the roots. Whatever crop is intended to be grown between them may then be put in. If strawberries occupy the intervals between the rows of vines, plowing, of course, can not be done; and herein consists the chief objection to growing perennials in the vineyard; it renders high culture quite a difficult matter. In such cases, recourse should be had to the forked spade, with which all the unoccupied ground should be well broken up. A narrow, long-pronged rake is the only implement which should be used among the strawberries. This will loosen the ground, so that all weeds may be easily taken out without injury to the roots of the strawberries. Plowing and spading among strawberries are things that should not be tolerated. The strawberries must not be allowed to make runners.

But to return to the vines. Our object during the second year is to obtain *two* stout canes; and this can easily be done if the vines were good ones when planted, and our directions have been followed out. If, however, for any reason, some of the vines should have grown feebly the first year, they must the second year be grown precisely as we directed for the first; that is to say, we must grow them to a single cane. With this remark, we will leave out of consideration these exceptional cases, and proceed on the supposition that every thing has gone on favorably for the production of two canes. The vine is pruned to three buds. If these are in good condition, the two uppermost will break strongest, and this is what we want. In this case, break off the lowest shoot when some four inches long, that the whole strength of the vine may go to the remaining two. Choose, however, the two strongest shoots, whether these be the two upper or the two lower ones. These two shoots, in reference to pinching in the laterals, stopping the leaders, &c., must be treated just as directed for a single cane. If a trellis has not been put up, two stakes should be put in, one for each cane, though this is not indispensable, as both canes can be tied to the same stake. There is one point, however, connected with growing these two canes, which we wish to impress upon the reader. It is very desirable, in growing the vine upon any of the arm systems, that the buds should be in a uniform line, and not irregularly around the cane, as is often the case from irregular tieing. There is but one certain mode of accomplishing this, and that is by tieing the shoot regularly to one side of the stake, so as to prevent it from deviating from a straight line, at least for four or five feet of its growth. The buds in this case will not only alternate each other uniformly, but the cane will be free from curves and crooks. Something more than mere appearance is concerned in this; for it will be found that the buds will break much more uniformly. The canes may be grown perpendicularly or at an acute angle, but they must preserve a uniform straight line from the point of origin. In other respects, the treatment of the two growing shoots should be the same as directed for the first year. How they should be pruned at

the end of the season will form the subject of our next article, this being already sufficiently long.

LANDSCAPE ADORNMENT.—No. XXIV. "ORNAMENTAL WATER."

BY GEO. E. WOODWARD,

Civil and Landscape Engineer, 37 Park Row, New York.

WATER is one of the most enlivening features of the landscape, and deserves a prominent position in the list of rural embellishments. It possesses an attraction that is always pleasing, and gives a variety that seems essential in ornamental grounds. It is, however, not accessible to all, and some of our most highly finished places are without so attractive a feature. But there are many places on which can easily be created all that is necessary to produce an effective display of water; and, where it can be had at a reasonable cost, the opportunity should be embraced. We do not favor stagnant pools without life, that evaporate or dry up in the summer's sun, or breed noxious insects and miasmas, but want the bright sparkling water whose motion never ceases—a lake into which, and from which, is always running a living stream. To treat water, as an addition to ornamental grounds, in a successful manner, is no ordinary achievement, but one that requires careful study and an intimate knowledge of natural forms. The outline of an artificial lake is by no means an easy matter to prepare; yet, in many instances, on irregular ground, any disturbance of the natural formation would be a serious mistake. A natural surface, that presents an irregular outline when flooded, is the most preferable, as it is desirable to avoid symmetrical forms; the varying heights of banks, the bold projections, the bays and lesser indentations, all go to make up a varied charm, which no regular figures could present.

A valley through which runs a living stream is the most natural, and perhaps the most proper place to make a lake. It would, in all probability, be below the level of the house, and occupy a position best suited to its easy construction and permanence. The dam or head made to raise the water should be so managed as to remove all appearance of art, and seem to be, as far as possible, a natural shore of the lake; this can be effected by making it of suitable width and planting it. The construction would consist then in the removal from the bottom of the lake of all vegetable matter, turf, and loam, that no decomposition take place: the formation of the shore line, by making it to resemble a natural shore, having projecting headlands and retreating bays, or of an irregular winding form, so managed and planted, that at no point is the whole sheet of water brought into one view.

The preparation of the bottom would then be an important consideration; and where one desires to study economy, there always is the opportunity to attain just the same results at a low cost. We think the use of masonry for the purpose of

making a pond tight is altogether a mistake; it is sometimes valuable as making a secure and durable dam, but not necessary to extend it around the entire shore line. It presents an unnatural and formal appearance if exposed, and is always such an item of expense as to induce one to sacrifice extent and variety for the purpose of keeping within a limit of cost. Small ponds are almost always seen at a single view, and generally appear better if treated in a formal manner. Nature rarely executes her works on a small scale, and if imitated thus, it can not be with any satisfactory result.

The operation of puddling with clay or stiff loam, or other earth of a tenacious character, is generally sufficient to make a pond tight, even if resting on a gravelly or sandy strata, the manner of doing which is by thoroughly mixing and kneading the earth with water until it becomes impervious. Sand and gravel may sometimes be mixed with it to good advantage; this, if put on from two to six inches in thickness, will, as a general rule, be all that is required to prevent leakage from any pressure of water. The sediment that is being constantly deposited would in time check the slow filtration of water into the earth, even if puddling were not resorted to; puddled earth should not be allowed to dry.

Ponds constructed in this manner can be easily and cheaply made, and their beauty and attractiveness be of a high order; the shore line will admit of all the variety of treatment consistent with natural examples; the finely kept lawn may run to the water; next the bold wooded point; then the sloping bank, &c., a natural variety scarcely admissible in a walled pond.

An ornamental pond, through which a living stream is flowing, is a source of profit, from the deposit that is brought to it; the wash of uplands, dead leaves, silt, &c., that annually accumulates, pays a handsome interest on a judicious investment; it forms a valuable addition to the fertilizers, and one not easily spared when its value is known. Those who have collected the wash of running brooks may be able to estimate what is annually lost by neglect to save the finely pulverized particles held in solution, and which would deposit themselves in the still waters of an ornamental lake—a silver sheet of water that gives life and variety to the landscape, and at the same time contributing to a useful and important purpose.

PRACTICAL PAPERS.—No. II. LET THE BIRDS LIVE!

BY OLAPOD QUILL.

Let the birds live! Boy or man, why do you so relentlessly pursue unto maiming or death every little beautiful bird that alights in your garden? God made them to live, to make vocal with their clear wild music this beautiful earth He has given to man—to cheer with their early matin song the husbandman in the early springtime. At the opening of a bright day in May, how sweet, how fresh

is the rich and varied melody of the thrush and the robin red-breast! The later, more diversified song of the bob-o'-link, as he rises from the waving green of the beautiful meadows of the Hudson, how well is its old familiar song remembered! The thrush is a great songster; he is a very talkative gentleman. He is often seen perched upon the highest branches of the maples at the field's border, or the tall elms by the roadside. There is a sort of consciousness about the russet-coated fellow, which almost every one must have observed. He seems to know that you are planting corn, and he tells you as plainly as he can, in his own song-words, "to put it in, cover it up, cover it up, put it in," &c., saying just what one imagines he would say if he could talk like men. I recollect once a neighbor and friend of mine, who was planting corn by the roadside, took the oft-repeated lay of a talkative thrush, who had perched himself near by, to enforce a lesson of energy upon a tardy though shrewd boy, who was dropping the corn in the hills. "Do you hear what that bird says?" said the farmer to the boy, whose name was Langdon. "No, sir, I do not." "Well, he says, 'Drop faster, Lang, drop faster; put in the corn; be quick, be quick!" This practical lesson, so pleasantly enforced, not only quickened the physical energies of the boy, but awoke a new train of ideas in his mind, which, but for the bird, he might never have had. Upon coming into the field, in the afternoon, the particularly pleasant smile of Langdon arrested the attention of his employer, who remarked, "What pleases you so much this afternoon?" "What the bird says this *afternoon*. He sings another tune now." "Well, what is it?" The boy quickly replied, "Joe, pay Lang half a dollar! Joe, pay Lang half a dollar!"

The corn was planted, Lang had his half dollar, all parties were satisfied, and the bird was voted a pattern of industry. Should not such a bird be spared the fatal shot from the fowler's gun? Certainly, if for no other reason than cheering on to industry, and enlivening the hours of daily labor, he should live to sing the same old song by the shores of the Mystic for years yet to come. But he does more than enliven a dull hour by his sweet song; he is a valuable apprentice in the field of the orchardist; he is a worker, a destructive force that needs no apparatus to set it in motion; he is ever ready to act in obedience to his natural instincts.

In many of our field birds is seen a result of instinct that, to the uninitiated, seems almost wonderful in itself. I have seen one single pair of thrushes, who had made a nest in my garden, destroy upwards of *three hundred* of caterpillars of a single morning, or in the short period of three hours. Now, if they would destroy such a number in the short space of three hours, of a morning, is it unreasonable to suppose the same pair of birds, with the wants of a rising family to supply, would not, in the course of a single day, destroy six hundred caterpillars?

I think my estimate will be received as fair and reliable. Now I esteem a pair of thrushes and golden robins as almost equal to one hand at killing caterpillars per day; the birds are not afraid of killing the worm, while some farm laborers

had much rather eat plum pudding within doors than kill these troublesome fellows with their fingers out of doors.

Therefore we say, spare the birds in the garden. Who has not watched with much pleasure the labor of one robin to take care of the little fledgelings who have just left the parental nest, and are seen every morning hopping up and down the gravelled road, or near the fountain? Do you not hear their familiar "pip-pup-pip," as, with wings drooping through helplessness, they utter their morning cry for food! I have seen one old male bird, in the space of a single hour, catch and give to its young fifteen large caterpillars.

The robin is one of the most industrious of our familiar household birds; and, as he is so great a friend to man, should find in man a generous protector; and we are pleased to know that our farmers, particularly in Massachusetts, are taking more effective measures for the protection of the birds. It is high time that long-legged, half-grown boys, had a better business than prowling through grass lands, over gardens, and about houses, shooting every robin and blue-bird, and every other inoffensive little bird to be seen. Let our yeomanry unite in passing a law, with penalties annexed, against the practice of this wanton, useless sport, and it will cease. In the economy of nature, these little winged ones play a most important part, and are of the most incalculable benefit to the husbandman. Several other reasons why they should be protected and loved, instead of maimed, driven away, and shot, I will tell you in my next paper.

[We are most decidedly in favor of stringent laws for the protection of birds. In some of the states there are already good laws on the statute books to meet the case; but, unfortunately, public sentiment is mainly wrong here. There is a very prevalent opinion that birds are not the friends of the fruit-grower; but this is undoubtedly a great mistake. It is true that some birds eat our cherries and strawberries, the cat bird especially; but even these more than compensate us in the destruction of myriads of insects that, if left to themselves, would well-nigh destroy every thing we grow. Let the birds, then, be protected from unnecessary destruction.—Ed.]

THE DELAWARE GRAPE.

BY JOHN E. MOTTIER, CINCINNATI, OHIO.

Mr. Editor:—If these few remarks about the Delaware are worthy of a place in your valuable journal, you may insert them. The first notice I took of the Delaware grape was in 1857, on a visit to Mr. Schneike, at Mount Adam, on Mr. Longworth's place. I found his entire crop of Catawba and other varieties destroyed by the mildew and rot, while the Delaware stood perfectly sound, without the least appearance of disease, although surrounded by the Catawba, which was

almost entirely destroyed. Since that time I have grafted and planted the Delaware as fast as I could possibly get the plants. I shall plant largely this spring, because I think it is the best hardy grape we have, either for wine or table use, growing strong, ripening two or three weeks earlier than the Catawba, the berries hanging longer on the vine after they are ripe, and the leaves remaining on the vine longer than is the case with others. The last season was unfavorable for the grape crop, as there was too much rain. My Delawares did well, being the only kind not affected by the mildew and rot. I lost nearly one-half of my Catawba crop, while the Cape, (that never suffers as much,) Herbemont, Isabella, Union Village, and other varieties, all suffered badly. I think the Delaware, though the berry is smaller than the Catawba, will turn out as much wine to the acre, and of a superior quality. I am fully of the opinion that the Delaware is the best of all our hardy grapes, either for wine or the table. As for my own taste, I have never tasted any grape that I like as well as I do the Delaware; neither have I seen any one who has ever tasted it who did not agree that it was the best grape they had ever tasted. I place it at the head of all the grapes, as the best table grape as well as the best wine grape; as an early ripener, as hardening and ripening the wood to the end of the growth, and possessing a vigorous habit, and keeping its leaves on longer than any other variety.

[This testimony, from one of the largest and best vineyardists in the country, goes strongly to confirm what we have heretofore said of the Delaware, and, of course, it is very gratifying. We think we have placed it rightly.—Ed.]

WATERING SPECIMEN PLANTS.

BY A. VEITCH, NEW HAVEN, CONN.

I do not know that any thing new can be said upon watering plants; but as it is a subject of quite as much importance as some which engage the attention of horticulturists, it may not be amiss to state a few facts relating thereto, even at the risk of being considered pedantic. And, perhaps, it would be greatly to the advantage of many were they to bestow a little more attention upon such common-place matters as the one now under consideration, rather than constantly hunting after some new thing, as intangible, perhaps, as "the last extract of bones" or "essence of guano."

But it may be said, every body knows that plants ought to be watered when they are dry, and never when they are not. So far so good; but the fact remains to be accounted for, how it is that one man acts upon this rule, as he thinks, without attaining his object, while another does so with the most striking evidences of success? This may be accounted for by supposing that a plant, from appearances, may be watered in such a way as to defeat the object aimed at. Suppose

it so situated as not to have the mould towards the bottom of the pot deprived of its moisture, while near the surface it is comparatively wet, or the reverse, excepting by the ordinary process of evaporation from natural causes. In these circumstances it would often appear dry, while, perhaps, a few inches below the surface it may be in a state far more conducive to its well-being than were it to receive more water than what would be necessary to wet that portion of the ball only which is dry.

One of the best growers of hard-wooded plants I have yet been acquainted with, watered on some such a plan as this. He knew from experience, as all gardeners might know, that the mould in the pots, in ordinary circumstances, becomes soonest dry on the surface; and to meet the case fully, he gave the plants as much water at one time as thoroughly to penetrate the entire ball, and the next only as much as to affect the driest part toward the surface. By closely adhering to this practice, as he did, altered circumstances not intervening to cause a change, he proved to the satisfaction of all the correctness of the plan by the ends obtained, and thereby raised himself to a high place indeed, as a grower of plants, especially Cape Heaths, Epacris, and Azaleas.

But how, it may be asked, are we to know whether a plant is dry or not, unless as indicated by the state of the mould on the surface? It is not difficult at all; and by way of explaining how, let me state, in few words, a test communicated to me many years ago by R. Veitch, I believe a discovery of his own. It is this: An empty pot, when gently struck with any object—the knuckle, for example—has a ringing, and what is called an empty sound. If filled with dry mould it will have much the same sound; but if the mould is well watered, thereby filling up the interspaces, it will then have a solid sound. If, then, in the practice of watering, any difficulty should be felt with individual cases as to whether they are dry or not, by this means ninety-nine cases in the hundred might be satisfactorily settled, and the conclusion come to that plants sometimes require to be watered when they do not appear dry; and sometimes it ought to be withheld when seemingly they are in want of it.

As a general thing, plants should be potted so as to leave sufficient space to hold as much water at once as they require, as to be necessitated to water twice before giving enough is a serious consideration indeed where time is scarce and labor dear. Sometimes it has been recommended to elevate the balls of hard-wooded plants a little every time they are shifted; but when this is done great care will be necessary not to have the pots too full, as, without more than ordinary caution, the most of plants would be apt to suffer unnecessarily from drought. I am aware the system of elevating plants so as to stand upon "little hillocks" is an old one, and has the advantage of being "well recommended," but unless in the case of some varieties of the heath—*E. depressa*, *Banksiana*, or *tricolor*, and its congeners; or those which, in their natural habits, grow in the fissures of rocks, or adown the arid slopes of the Cape. These, by being raised a little, will be

less liable to damp at the neck. But the free growing varieties generally, such as *Bergiana*, *prægnans*, and *ventricosa*, need no such prominent situations, and are all the better for being potted in the ordinary way. In a country like this especially, and where the sun pours down his rays with such intensity as to make almost every green thing "languish," the practice can not be defended on any principle of utility, but rather decried as unnecessarily exposing the roots of the plants. In the case of heaths particularly, I believe that more of those truly beautiful plants die for want of proper attention in watering than from any other cause.

It therefore follows, there are some things to be avoided that plants in pots may be sufficiently supplied with water, and some signs observed which indicate their condition as to when, and how much to give. Above all, punctuality in attending to their wants is the great and principal cause of success. Without this the most judicious selection of moulds to grow them in, as well as every other attention, will be of little avail; while with it, other things being equal, success may reward the labors of the most humble laborer as well as him whose business it has been from his youth up to learn all about their ways, even to the anticipating of their wants. It may not be that all are permitted to hold such intimate fellowship with their plants as Tennyson says some one had with his "Talking Oak," which, for kindnesses received, in a transport of delight is reported to have said:

"Hard wood I am, and wrinkled rind,
But yet my sap was stirred,
And even into my inmost ring
A pleasure I discerned,
Like those blind motions of the spring
That show the year is turned."

And so it may be with those who, by kind and considerate treatment, strive to be on good terms with their plants. They will be rewarded with such manifestations of gratitude as they are capable of showing, which will be a satisfaction to all concerned, as well as to those who only stand and look on; while the attachment thus created will grow and strengthen until the fiction of the poet begins to look so like the sober truth of the philosopher that their various opinions relating to such subjects might almost be "woven into one."

[A very important subject, philosophically treated. There is probably nothing connected with the culture of plants in pots more deserving of consideration. A plant that has once suffered for the want of water, seldom or never fully recovers its pristine condition. The evils that result from overwatering may be controlled in a great measure by thorough drainage; the opposite extreme can only be avoided by careful attention. A very common and very bad practice is to fill the pot quite to the rim with earth; the top of the pot should always hold water enough

to go through the ball of earth. There can, in this case, be no danger from over-watering if the drainage is right. We should be glad to hear more on this subject.—Ed.]

OSAGE ORANGE HEDGES.—NO. II.

BY "OUT WEST."

Premising that the hedge has been successfully planted, the first thing that will claim attention will be to prevent the disastrous effects of drought, if it occurs during the early part of the season. Doubtless, the most efficient mode that would occur to the mind of the intelligent cultivator, would be mulching. It would certainly prove efficacious, if properly done; but when it comes to mulching several hundred rods of hedge, which often has to be done, especially on our prairies, it becomes rather a formidable task; because the material for mulching so large an amount of hedge can not be very readily obtained. We will state a plan which we have seen adopted, and which proved to be an efficient one. It can be adopted, too, to prevent the ill effects of alternate thawing and freezing during winter, which often occurs in this western country. Our plan is simply to plow along the hedge, with a large mold-board plow, throwing a couple of furrows over the plants, from each side of the hedgerow. When there is no further danger to be feared from the drought, the soil can be partially thrown from the plants by a small mold-board plow, and then finished with the hoe. Cultivate well during the summer to keep down weeds, and to insure a healthy and vigorous growth. This is of the utmost importance, and should not be neglected.

This brings us to the trimming, which is the most important part of the whole operation of making a *good* hedge, and should receive that attention from those who contemplate hedging, that it imperatively demands; and there is, too, more diversity of opinion on this part of the subject, than any other connected with the whole operation. We will state our plan, founded on six or seven years' experience; and would ask others, who have been successful, to do likewise, as it is only by a thorough discussion of the subject, disclosing the experience of those who have been successful, that the proper method can be obtained. *Never* cut the hedge during the first season's growth. The reason for this is evident. The plant *must become well established* before any trimming is done at all. For this reason we recommend to do no cutting until the fall of the *second* year. There are two exceptions to the latter course. One is, where the plants are growing in an unusually *fertile* soil. The other, where the season in which the hedge is set is an unusually moist one. In either case, the hedge will make nearly as vigorous a growth in a single season, as it would in two, under ordinary circumstances. We know it will be a difficult task to convince those who hold to preconceived opinions on the subject; but we only ask a fair and impartial trial, to convince

the most incredulous. It is immaterial whether the plants are cut off in the fall, or left to be done early the following spring, if they are to be mulched for protection during winter. It will always be a benefit to mulch for winter protection, but in many parts of the country it will not be found actually necessary; but in many sections of the *western* States, alternate thawing and freezing are the cause of much trouble and expense that might be avoided by using proper precaution; but there are seasons here, however, when no damage is done. If the plants are *not* to receive a covering in winter, do not cut them back till spring.

The cultivation in after seasons must be as efficient as during the first one. We have seen it recommended to sow grass seed along the hedge, after the lapse of a few years. We have never tried it, but think it quite practicable. We would not seed it until about the fifth year. As to implements for trimming, we desire nothing better than a good *brush scythe* for the first three seasons. After that length of time it will be necessary to have a knife that is manufactured especially for trimming hedges. If the hedge gets two seasons' growth before commencing to trim, as we think it should have, cut down to within three inches of the ground. By the fifteenth or twentieth of *June*, the plants should make a vigorous growth. Again cut to within *four inches* of the previous cutting. Choose a *moist* and *cloudy* day for this, if practicable; but it will not be necessary to let it go undone, if the weather is fine, as there is but little difference between the two conditions. About the middle of *August*, cut down to within *four* inches of that done in June. After frost has killed the foliage, and vegetation ceased, again cut to within *four* inches of the previous August cutting. This will leave the hedge about one foot high, and will have formed a fine base of lateral branches. No more trimming will be necessary until the following June, when the same course is to be pursued during the season, and each following one, as recommended for the first. If it is desirable to cut back at the end of the first season, cut as close to the ground as possible in the spring, and do not cut again until the following fall or spring, when it may be cut to within *three* inches of the previous cutting; and then pursue the same course as recommended for the other. This course, carefully followed up, will place the hedge one foot in height the fall of the third season; and each succeeding year an additional foot to the height of the hedge. It may appear tedious, but we feel satisfied it is the most proper way. After it has attained the height necessary to form a good barrier, it need not be cut but once a year, and that in the fall. The reason for cutting it in early fall is, that it can be done with half the labor it otherwise would require, if deferred until spring, and the wood become hardened.

We have said nothing about trimming the side of the hedge. The growth of the Osage Orange tends so strongly upward, that the hedge requires but very little trimming at the sides, unless it is desirable to keep the hedge within a limited space. If this is the case, the laterals will require some thinning out. If the ends of the laterals are merely trimmed, it will cause too dense a growth, shading

the interior of the hedge too much. There will likewise be laterals that will require cutting out entirely, but not very many; and again others that have a tendency to grow more vigorously than some below them. These must be shortened in, to prevent shading those below them. These directions, carefully followed up, can not otherwise than insure success. Many persons will doubtless think these recommendations radical; but such is the vigor of the Osage Orange, if allowed to become *well established*, that it will not suffer in diminution of growth for several years.

We shall have to state briefly our objections to methods generally adopted, as this article is already much longer than we anticipated. Some persons practice cutting off the tops of the plants one foot from the ground the first season. (That we may not appear ambiguous, we will state that in speaking of cutting the plants the first season, we mean in the fall after vegetation has ceased, or the following spring.) Others let the plants grow two seasons, and then cut off the plants two feet from the ground, and the following season add two more feet to it; and more likely than otherwise, it will be the last. The same objection will apply to both of these methods. Those who have seen the Osage Orange growing, can not have failed to notice its tendency to grow upward; no matter whether it is cut off at two *inches* or two *feet* from the ground, there will be only two or three vigorous shoots at the top, with a few laterals at the side. Therefore, by adopting the plan of cutting off at one foot or two feet, as the case may be, there will be a space of several inches (more or less, according to the height the canes are cut) that will be entirely bare of laterals. Besides looking unsightly, the litheness of the wood in its growing state will allow it to be bent to the ground, affording a fine opportunity to any one who might desire to test the quality of the fruit growing in our garden or orchard.

[We have to thank "Out West" for the continuation of his article on Osage Orange hedges, which has enhanced its value very much. His directions are plain enough to enable any body to make a good hedge. We shall be glad to hear from him again.—Ed.]

AN HOUR IN THE VINEYARD.

BY JOHN S. REID,

BANKS OF THE WHITE WATER, FAYETTE COUNTY, IND.

The spring having opened in this region of our beloved country, like a cold and surly master, the work in the vineyard this season is at least two weeks behind; but, with May, came balmy gales and gentle showers, and the leaf and blossom of the peach, pear, and apple began to show themselves in our midst, and the blue-bird and robin disported among their branches.

During one of these balmy evenings, seated in my summer house, which overlooks the vineyard and orchard, musing on the past, and prospecting for the future, the HORTICULTURIST, ever a welcome visitor, was announced as having come; and laying aside all the day-dreams in which I was then indulging, at once I shook hands with the long expected, and sat down to converse with the welcome friend.

After perusing your excellent and practical "Hints on Grape Culture," which, by-the-by, are worth to the amateur the price of the volume, I hastily ran over the contents, and my eye alighted on the rather unique title of "What's in a Name?" and turning over to the text, found an article by Pratiquer, on what might be called the misnomer of "Grape Vines." With him, I have often thought of the propriety of some one revising the nomenclature of our native grape vines, and giving to each one such a classic name as would indicate its original locality, or place of birth, its hardiness, and bearing quality, as well as the real intrinsic merit of the vine, for wine or dessert. But, alas! I have found no one bold enough, and sufficiently versed in the learning of the schools, to perfect my plan. Being like him, also, an amateur cultivator of the grape, and having something of a weakness for the cultivation of this fruit, I have spent some time and money in endeavoring to obtain either a new variety of undoubted merit from the seed, or by hunting up some unknown vine, whose luscious berries induced the truant school boy to forsake his learning and abandon his Greek and Latin for its tempting clusters; at last I deemed that the "Eureka" was mine, and having a very favorite daughter, in naming the new stranger, I thought I could not do better than promise her the name. I had, also, some other new grape seedling vines, and having some more young daughters, equally favorites with the writer, I promised them each a vine, and that they should stand little godmothers for them on the day of their christening; hence you was correct, Mr. Editor, in saying that I had not fully named my vine. But I see no reason why we may not call our favorite grape vines after the ladies of our country, as well as the English and French, &c., who name their finest flowers after theirs. I find, also, that many of our finest foreign pears are named after the ladies, such as the Duchesse d'Angoulême, Madeline, Marie Louise, Duchesse d'Orleans, &c.

My grape vines, this season, have broken the bud splendidly, nearly all sound, and the indications are, that there will be an extra crop. The finer varieties, such as Delaware, Clara, Rebecca, Anna, Union Village, still survive the winter, but show no sign of fruit, although they are now three years old. Every one cost me a high price, and were sold as No. 1 vines. On the other hand, I had Clinton's which fruited from the slip the second year, and some Catawbas, from the layer, which fruited the first.

Referring to the grafting-wax recipe in your March number, allow me to say, that I have made some of it, and that it is all that you represent it, I can with confidence assert. I have grafted with it, and the grafts seem to be alive. I have

stopped the bleeding of vines with it, healed the cut-wounds of trees, and covered the places on young trees barked by rabbits, and all seemingly doing well.

Apropos about wine! You were right in the selection of the wine sent you by me. The red-cork was, however, the dearest in price, by almost double; nor can you obtain much of such a quality from a small vineyard like mine, (one acre,) as it requires the very best and ripest grapes to produce it, and very few persons will pay the price which it ought to command in market.

This season, I sent on to Dr. Grant, and received some of his choicest vines, both as to growth and quality. By another year, I can better tell of their worth than now.

Some three years ago, I received a present of a small package of grape seeds from Texas, the fruit of which was reported very fine. The seeds I sowed under glass, and raised, the first year, over fifty plants; but the second and third winters, notwithstanding all my care, thinned them out so, that almost none remains alive. I have the Texas Oak Leaf in fruit, but whether it will be able to mature it is in darkness. Some of my seedlings will fruit this season from present indications, and the one which I intended calling the "Anna" ought to show its true character this year.

Perhaps Pratiquer may not be far wrong in saying that I had named my grape the "Anna," for by reference to the August number of the HORTICULTURIST, I wrote of *it* as already named; but on receipt of that number, and your suggestions as to the propriety of continuing *this* name, and being acquainted with the practice of scientific men allowing the first discoverer, producer, &c., mentioned by Pratiquer, to name the new stranger at once, I yielded the palm of honor to Dr. Grant; and as my daughter, after whom I named the grape vine, had a middle name—Harriet—I thought that this was equally as pretty, and if the vine proved sufficiently good, this should be its name. This season will test the question.

My Canada grape, which was named the "Wellington" by the fair donor, is still alive, and doing well, and ought to show fruit this fall. The vine appears to be tender, at least, so far, by me; the Western winter is too severe on the young wood, hence I had to cover it up during the winter. Its leaf indicates a fine variety of fruit.

Having lost two very fine pear trees this spring, with what may be called the dry rot at the root, can you or any of your correspondents inform me of a remedy which, if applied early, would prevent its extension all over the rootlets, and save the tree.

The trees were the Duchesse d'Angoulême; and up to the time of leafing showed no sign of disease. When examined, the roots were almost covered with a white fungus, and broke off brittle and dry.

In the May number, a writer talks of the application of the flour of sulphur

to the roots of the peach, as a cure or prevention of the worm. I have used this for several years, and found it beneficial, but not a prevention.

The civil war, which we all deeply regret, may be productive of one good, which is, that it brings in contact, not only on the battle field, but in the hall and the cottage, the bone and sinew of both sections of the Union, so that before they part, each will have formed a more friendly and truer opinion of one another. My friend Capt. Walker, of the 2d Indiana Cavalry, sent me, from the "Hermitage" at Nashville, two beautiful cedars, obtained from the homestead of the old hero, who *now* sleeps so calmly amidst the din of battle. I will cherish them in remembrance of him who was his country's best and firmest friend.

I have also a grape vine sent to me by General Pitt, of Texas, sent in the sunny days of peace and happiness. Alas! that the designs and actions of bad men should thus destroy the hopes and happiness of the faithful and true.

[We too are at least two weeks behind in spring, besides suffering from a drought. It is very gratifying to know that you approve our "Hints on Grape Culture." So far as the amateur at least is concerned, there is nothing at present that can take their place. They are entirely the result of our own experience, with no foisting in of pretty foreign theories and modes unsuited to our native vines and climate. We had undertaken the revision of our vine nomenclature, but the labor was so great that we were compelled to put it off to a time of leisure. We think, however, we are quite right about the female names; being somewhat of a ladies' man, how could we be otherwise? The grafting-wax is undoubtedly what we represented it; we never endorse a thing outside of our personal knowledge. We are pleased to know that you found it as represented. We know of no remedy for your pear trees except taking them up, washing the roots, pruning them, and planting again in fresh soil. This dry rot is frequently caused by the use of long manure. If the red-cork wine cost nearly double, it was more than twice as good, and hence the cheapest of the two. We are sorry enough our bottle is gone!—Ed.]

THE "WEED AND INSECT DESTROYER" ASSOCIATION.

BY G. H. B., NAZARETH, PA.

Our "Weed and Insect Destroyer" Association, as stated in the last June number of the Horticulturist, has proved to be a wholesome movement to our neighborhood, as the people begin to see that feeding the birds becomes a *monopoly of their services* to the feeder. Bird-feeding, therefore, becomes general here, and it is probable that, within a few years to come, we shall have all the birds of the state congregated in our county, except feeding be practiced elsewhere.

We have added now to our flock of workers also the crow by domesticating it,

and find it very important to be employed in orchards as a powerful grub and mouse destroyer.

A farmer at our elbow, who was advised to shoot a bird occasionally for the purpose of ascertaining if it was an injurious bird or not, by opening its craw, went to his cornfield in May last with his gun, there hid in a bush, and soon found a number of quails nearing, and apparently in the very act of pulling up the sprouted corn. He shot two of them, and on his way home killed also a robin, the very bird that took some of his cherries last year. The craws were examined, but, to his surprise, no corn nor cherries were found in them, but only worms and grubs, the very things that had destroyed his corn. And as he now wished our opinion and advice on the subject, we directed him that, whenever he should again be vexed at the birds, to load his gun as usual, but leave out the shot, (the lead,) and fire away at them as often as he pleased.

I was happy to find in the Philadelphia *Saturday Evening Post* of the 4th inst., an article similar to mine as pointed to above. You will find it inclosed.

But before I close this chapter on birds, I wish to draw attention to another little winged and much-abused animal; and although not a bird, its great usefulness *in destroying mosquitoes* is generally very little appreciated or even known; *we mean the bat.*

In localities where mosquitoes are plenty and annoying, we would recommend to keep one or two of them in a cage or little box, and before bedtime let them fly through the house, closing the windows, when they will free every room in the house of that well-known torment, the mosquitoes, in less than ten minutes, after which they may be caught and recaged.

The dread which women have of this little harmless creature is *founded on fable.*

We give the above from our experiments with the bats.

[There can be no doubt that G. H. B. is entirely right with his "Weed and Insect Destroyer" Association. Every village should have an association of this kind. The birds may occasionally take a little corn, or a few cherries and strawberries; but what of that? Do they not consume millions of noxious insects that would otherwise destroy all our fruit? The good that they do preponderates so immensely over the harm they occasion, that this alone should insure their protection against wanton destruction. Then they are so pretty and sing so sweetly that we should do every thing in our power to induce them to congregate around our homes.—The suggestion in regard to the bat is to us a very novel one. We hope some of our readers will give the bats a trial. We have no doubt they have tried the mosquitoes to their entire satisfaction: we have.—Ed.]

A COLD VINERY AND SOME VISITS.

BY GEORGE PEPPER NORRIS, WILMINGTON, DELAWARE.

The cold vinery under the care of James Matheson, whose name has become familiar to the horticultural public by means of his various essays on grape growing, deserves more than a passing notice. This house is a lean-to, 60 feet long by 25 wide, built in an old stone quarry under the lee of a hill, occupying one of the most sheltered positions imaginable. The house is principally noticeable on account of great length of rafter, being over 27 feet, thus affording a fine opportunity of developing the vines on the spur system; and nobly has this been taken advantage of by this enterprising gardener. The vines are planted 4 feet apart, and are 5 years old this spring, (1862;) they are now as thick around as a man's arm, and for fine appearance exceed any thing it has been our fortune to meet with. The first year they were cut back to 18 inches; the second, 7 feet of wood was allowed to remain; the third about 4 feet; the fourth, 2 feet; and last year 18 inches. On one of these vines a bunch of the well-known variety, Muscat of Alexandria, was grown weighing over 9 pounds, last season; in addition to this magnificent bunch, about 50 pounds of fruit was taken. From a white Syrian, Mr. Matheson expects a twelve pound bunch this year; and we think he will have it, as he has the wood. These vines were one year old when planted, the border being inside and outside; the vines planted about 18 inches from the front wall. The soil is naturally well adapted for the culture of the grape, being a sandy loam, and the border evinces careful preparation by skillful hands. The house is essentially a cold house, although provided with a flue. Artificial heat is not resorted to, to forward the vines; the situation of the house is so protected that the vines start considerably earlier than they would in a more exposed position.

The vinery of Mr. Joseph Lovering, on the old York road, near Philadelphia, as well as that at the former residence of John Tucker, Esq., both furnish good specimens of the curvilinear style.

Mr. Lovering's house is 80 feet long by 24 wide, and 24 high; 22 vines are grown on each side on the spur system, with the border inside and outside. About thirty pounds of fruit are taken annually from each vine. Forcing is not resorted to, and the hot water apparatus only used for the purpose of excluding frost. The vines break about the middle of March, and fruit is in season from the middle of August until Christmas. The house is a costly structure, and will not be copied except by those of abundant means, although for beauty of appearance, especially when the vines are in a fruiting condition, it will compare favorably with any house that we have seen. Ventilation is effected by means of sash so worked that all are opened and closed simultaneously.

Curvilinear houses are well adapted to grace the grounds of the wealthy, espe-

cially where early grapes are not sought; for economy they will not be chosen. For a specimen of a cheap, complete curvilinear house, the reader is referred to a building opposite to Monument Cemetery, Philadelphia. This house, if memory serves us, not having seen it for several years, is over 50 feet long and about 20 wide; we think it was built by contract for six hundred dollars, while the house first alluded to cost, we should judge, as many thousands. A skillful gardener could take as much and as fine fruit from the cheap structure as from the more costly.

Curvilinear houses, to our eye, present a more pleasing appearance than any other form of house. They are easily managed, but should always be provided with the means of securing artificial heat if desirable. The borders of this form of house are usually made inside and outside—vines planted near the inside front wall.

Among the well-kept places with which West Philadelphia abounds, those of Mr. M. W. Keen and Mr. Altemus are conspicuous. Mr. Keen's grounds embrace about an acre, and are judiciously laid out. Among the many beauties, a fine specimen of the Magnolia grandiflora, in full flower on the 20th of April, was especially noticeable. Some pear trees, trained on espaliers, attracted our attention, being remarkably full of fruit buds, and presenting a novel feature. This mode of training pear trees, although well adapted to the gardens of the curious and the skillful, is not to be recommended for general purposes, as the sun is found to have an injurious effect on the bark of the trees. The vineries, lean-to houses, about 50 feet long each, bear testimonials to the skill of the gardener, Mr. John Stowe, to whom we are under many obligations for varied marks of attention. The residence of Mr. Keen, taken altogether, presents many attractions. Here, surrounded with all the advantages of the city, may be enjoyed the pleasures and freedom from restraint peculiar to a country life.

The residence of Mr. Altemus, somewhat further out, contains about the same amount of grounds, the most marked feature of which are the graperies, which have become very well known under the care of Mr. John Sanders. The borders are altogether outside, the vines planted without, and trained on the spur system, and the entire houses, some three hundred feet, heated with hot water piping. A house of nectarines in full bloom presented a magnificent sight, not soon to be forgotten, the trees being in tubs, and trained on espaliers. Out of doors here, as well as at Mr. Keen's, are to be seen some well-attended pear trees, showing how grateful the pear is for a moderate amount of attention. Still further up in the village, we were taken to see some 70 trees, (pears,) planted about 6 years ago, and which have been under Mr. Keen's gardener during the past three years. To those doubting the practicability of growing the pear with profitable returns, we would recommend a visit to these trees. They have had no specific treatment, and have been properly and judiciously pruned into the pyramidal form. The return from these trees, the gardener informed us, (the ground occupied being less than half an

acre,) would be over one hundred and fifty dollars; the expense of treating them, nothing. A thorough spading of the ground two years previously had been their only cost. And while on the subject of pears, let me ask why it is that the Winter Nelis (two of which were among the collection alluded to, and very thrifty, beautiful trees) is so exceedingly difficult to obtain of our nurserymen? They all have it, it is true—in their catalogues—but nowhere else; for instance, to be specific, an order was sent in succession, last autumn, to Wm. Reid first, then to Smith & Hanchett, then to Maxwell & Brothers of Geneva, for this tree; all replied in the negative. At last we prevailed on Hovey & Co. to send us 12, (20 the order called for,) and without Mr. Hovey's attention, we might have wanted the tree. The variety is set down as a poor, straggling grower, and is thought to be tender when young; but our nurserymen should either take its name from their catalogues, (especially their trade lists,) or keep up a stock.

[We should like to be near Mr. Matheson when those big clusters ripen; something very persuasive would happen. In regard to curvilinear houses, there can be no doubt that they are the most beautiful as well as the best that can be built. The additional cost is not necessarily great.—Ed.]

CULTURE OF THE CAMELLIA JAPONICA.

(*Concluded from page* 217.)

BY WM. CARMIENCKE.

The Camellia is in habit a forest-tree, and the soil most suitable for it is one rich in vegetable matter; still it must neither be too clayey nor sandy. Gardeners differ somewhat regarding the best compost in which to pot Camellias; "many men, many minds," is a true saying in the present case. I have found the following compost very good: 3 parts rich loam; 2 vegetable mould; 2 sand; 2 charcoal. Sometimes animal manures are used; when used they should be well rotted; in fact, all the substances used must be well decayed. A great many take the trouble to sift the soil; it is, however, far better to crumble it with the hands or the spade. Sometimes, when the sand is not very fine, it must of course be sifted. I could not pass by the charcoal without noticing its great benefit and general usefulness. Charcoal, we know, belongs to those manures called absorbents; that is, it has the power of absorbing those gases (acids) which are produced by the different manures supplied to the soil, either in a solid or liquid state, and of retaining them until wanted for the plants; it also, by retaining the acids and absorbing the water, prevents the soil from getting sour. Allow me here to make the following extract from "Experiments and Observations on the Action of Charcoal from Wood on Vegetation," by Mr. Lukas. In speaking of

the action of the soil mixed with charcoal Mr. Lukas says: "An addition of two thirds charcoal, for example, to vegetable mould, appeared to answer excellently for the Gesneria and Gloxinia, and also for the tropical Aroideæ with tuberous roots. . . . A cactus planted in a mixture of equal parts of charcoal and earth throve progressively, and attained double of its former size in the space of a few weeks. The use of charcoal was very advantageous with several Bromeliaceæ and Liliaceæ, with the Citrus, and Begonia also, and even with the Palmæ. The same advantage was found in the case of almost all those plants for which sand is used, in order to keep the earth porous; when charcoal was mixed with the soil instead of sand, the vegetation was always rendered stronger and more vigorous." This, I think, will be sufficient proof that it is of great advantage to mix charcoal with the different soils for plants. We must also remember that in absorbing carbonic acid and ammonia from the atmosphere, it furnishes the plants with one of their principal ingredients.

Shifting the Camellia need not take place often; yet it is of great importance, and should never be neglected, if it is our wish to be in possession of strong and healthy grown plants. Never allow your plants to get pot-bound; this is connected with evil results; the roots will be so crowded, that it prevents drainage. If, after watering, we turn such a plant out of the pot and make an examination of the ball of earth, what will we find? Simply this, that while the upper part of the ball is *saturated* with *water*, the roots at the bottom *suffer from drought!* The consequence of such a culture is not only that the plants lose their flower buds; but, if kept in this state for a considerable time, the greater part of the roots will be found dead from want of nourishment. If such an accident takes place, the plant must immediately, after the greater part of the soil has been removed, and all decayed roots cut off, and the branches pruned in proportion, be repotted, then placed in a warmer temperature, and syringed twice a day with lukewarm water, to keep the stem in a moist state. It will be found beneficial to envelop it with moss; this will have a tendency to make it break stronger. When the young shoots have made the third leaf, the plant should be hardened gradually, and removed to its former place.

Young Camellias may be shifted every two years; older plants, about five feet high, need only to be shifted every three or four years; a great deal depends, of course, upon the healthfulness of the plants. The pots should always correspond with the size of the plants; small plants will want them from 1 to 2 inches wider than those they occupied before; strong and powerful specimens in proportion larger. Camellias prefer pots with more width than depth. A main feature is to secure perfect drainage; to this end, place about two to three inches of broken oyster shells or broken crocks in the bottom; upon this a mixture of fine *cut moss and powdered charcoal*, into which the young spongioles like to penetrate.

Notwithstanding shifting plants is a very simple operation, it still requires some

judgment; it is often done with a great deal of carelessness. After having removed the plant from the pot which it occupied with the ball entire, cut off all sickly and decayed roots, without breaking the ball of earth, except about one inch of the soil at the surface. Next, after placing a few inches of soil in the pot, place the plant as much as possible in the middle, and fill the space between the sides of the pot and the ball firmly with your compost.

Many will inquire, When is the proper time to shift Camellias? The general rule is, No plant should be shifted just before flowering, or while in bloom. April is about the best time; if the plants have been forced, it will of course be necessary to do it earlier.

Watering and Syringing.—Next to the soil, the water is of the greatest importance to secure a perfect development in the different organs of plants. We will as briefly as possible investigate its influence on vegetation. The water is found in the atmosphere as a gas, and in the soil as a fluid, and is in both forms of equal importance to develop plants. We know that no substances can enter through the roots of plants unless in a fluid state; consequently, if water was not present in the soil, the different nutritive substances which it contains could not enter into the composition of plants. This is, however, not the only office which it performs: it also serves to convey the dissolved substances to the different parts of the tree, where new organs are formed. This will convince us why some soils, although fertile, but exposed to drought, can not have that favorable influence on vegetation which is effected by a soil of less fertility, but supplied with sufficient moisture. Yet, to have the desired effect upon the plant, and to secure a vigorous growth, the temperature and moisture of the soil must stand in a certain proportion to each other. To make this appear more evident, we will suppose a plant to be placed where there is high temperature, but no water supplied to it. What will be the consequence? After the leaves, through perspiration, have given off to the atmosphere all the nourishment they could receive through the roots, they will wither and fall off; next, from the insensible perspiration which takes place from the trunk and branches, the sap vessels will dry up; in fact, the plant must die.

If the contrary took place, namely, a cold atmosphere and a superabundance of moisture, the effect would just be of an opposite nature. In the first place, it would cause an excitement in the growth of the tree, which will be very feeble, and therefore not bring forth as many flowers as usual. And should it happen that the roots are surrounded with water, which prevents the access of air to to them, they will be unable to perform their functions, and must rot. The watering of plants, therefore, belongs to one of the most important operations in gardening.

After shifting the Camellias, great precaution must be taken in watering them sparingly until they get settled, when more should be given. Always be sure

that the water penetrates the ball of earth; to give them a good supply at once, so that it runs out through the aperture, is better than little and often. The period during which Camellias require plenty of water, is when they commence forming young wood, until the flower buds are perfectly developed; if water is not supplied regularly at this time, many of the flower buds will drop off.

Syringing must also be attended to regularly from the time the Camellias commence their growth. In the winter, watering and syringing should be done early in the morning. Always water before syringing; if this is not done, it is very difficult to judge which pots are dry. It should also be done early in the morning, that the plants may be dry again before the sun gets too strong; often some drops of water will remain upon the leaves, and when the rays of the sun fall upon them they act like a burning glass in scorching the leaves. When the flower buds are bursting, syringing overhead should be discontinued; else the tender sepals will be spotted. When moss grows upon the surface of the earth, it is caused from want of drainage. The plant must then be taken out carefully without breaking the ball of earth; after renewing the drainage, replace the plant; now remove about one inch from the surface, and fill it up with suitable compost.

The dropping off of the flower buds may be attributed to different causes; from the plant being kept either too dry or too wet; also to a sudden change in the temperature. If the flower buds are imperfectly developed in the fall, when the plants are brought in the house, the watering must be attended to with a great deal of care.

The cultivation of Camellias in rooms is connected with some difficulty, on account of the dryness of the atmosphere. When kept there, they should be placed apart from the sitting-room, where they are not so much exposed to the clouds of dust which the housemaid raises with the broom, and which finds a landing-place upon the leaves of the poor Camellia, and consequently hinders its healthy development. The red spider is also very willing to make its appearance in a room. Above all, when watering the plants, water them with clear water, and do not force upon them coffee, the dish-water, soap-suds, and other beverages, which place the roots of the poor plant in nothing but a sewer. A good plan is to wash the branches and leaves frequently with a sponge.

Propagation.—The propagation of Camellias by cuttings is not often resorted to, except for the propagation of those with single flowers, which are used for stocks, upon which the double varieties are inarched; by which course strong specimens can be procured in one year's time. The proper time for this operation is when the Camellias have commenced their growth. It will be needless here to describe the operation of "inarching."

Cuttings.—If any one wishes to increase some by cuttings, it can be done in the following way: The varieties with single flowers root easier than those with double ones. Take flower pots about three inches high and eight in diameter; place

some broken crocks in the bottom; upon this a layer of moss; and fill the remaining space with a mixture of two parts vegetable mould, two sand, and two powdered charcoal. For cuttings, take the young wood perfectly ripe; leave each cutting with three leaves, and cut it off at the lower part, just below a joint, with a sharp knife; then insert the cuttings, and cover them with a bell glass. Place them in a temperature from 45° to 50° Fahr., shady and cool, for about three weeks; if placed in the heat just after having been made, they will make callus, but no roots. At the end of this time, they should be removed to the hot-house. The single red flowering ones generally root in from three to four weeks; the double flowering varieties require some time longer.

Seed.—It is seldom that Camellias are propagated by seed, unless it is the wish to raise new varieties. The seed should be sown in seed-pans, in sandy peat, and with a good drainage, and placed in from 75° to 80° of heat.

The length of this article forbids me to enter into detail upon the merits of the different kinds. New ones are yearly added to the list, many of which are not so excellent as their predecessors. A good collection should not be without the following: Archduchess Augusta, Downing, Lady Hume's Blush, Alba Perfecta, Wilderii, Abbey Wilder, Imbricata, and Fimbriata.

[The Camellia grower will welcome the above from Mr. Carmiencke; it meets and provides for many difficulties met with in growing this popular plant. Another article, containing a description of the best varieties, would make the subject more perfect.—Ed.]

MORE ABOUT VENTILATION.

BY VENTILATION.

Mr. Editor:—I have received the August number of the Horticulturist, and through it, the answers to my questions, for which please receive my many thanks.

Well, Mr. Editor, I have "been and gone and done it;" that is, I have investigated the matter, and think I now understand my most worthy tutor.

There are undoubted, constant changes going on in the soil, although not apparent to sight or sound; we can sometimes use our olfactory nerves in detecting this change.

I now suppose that carbonic acid and ammonia are given off from the soil in any well constructed border in a green-house, or from the numerous small borders, *alias* pots of compost.

All good soils probably contain a considerable amount of carbon. If the soil containing this is properly drained of its superabundance of water, undoubtedly the air will enter the soil, and there work such wonders that we poor students never

dared to dream of ever explaining to our entire satisfaction. One of these changes I suppose is, the oxygen of the atmosphere uniting with the carbon already in the soil, forming carbonic acid gas; probably part of this gas is absorbed by the rootlets, and part escapes into the atmosphere, there to be decomposed by the leaves, and stored in the plant as carbon. Am I right there?

But another point is, how does the air obtain any ammonia? If I remember rightly, the "doctors" tell us to never put undecomposed nitrogen into any border, and I can conceive in some manner how it would have a bad effect; if a chemical action is too great, in the presence of roots, it may have the power of killing them, as we know that the hydrogen of the air will speedily enter into nitrogen and decompose it, which action is very fast, sometimes producing a great amount of heat, as in the case of the common hot bed. And again, if nitrogen is to be supplied to the plant, it should be in the form of ammonia, and any compost containing this should have it so absorbed as to allow of no waste, *i. e.*, volatilization; for, in open culture, all ammonia that we allow to escape into the atmosphere is so much lost to *us*.

But probably no compost has yet been prepared, with a sufficient quantity of ammonia in it, but that there were some portions of it that were not fully absorbed some would be escaping constantly from it for a long time. This would apply even with greater applicability to the green-house, as there the soil or compost is generally richer in ammonia.

Probably you mean that carbonic acid and ammonia are, generally speaking, constantly rising from the compost in a hot-house, thus supplying it to the confined air. Allowing a grape-vine in a pot to have three feet square of air, could it thrive if this air was not changed, or the portions that were absorbed by the leaves supplied; that is if the *top* of the vine was placed in an air-tight space of twenty-seven square feet, could it thrive? Does your humble student *now* understand you? A few words more, and then I shall quit this letter. Writing letters I am not used to.

I am glad to see that you combat the prevailing idea that trees and vines have larger roots, in proportion to their tops, in rich soil, than they have in poor soil. Page 387, Aug. No., "there are two quite distinct methods of making 'layers,' the one producing scarcely any thing but long roots, and the other a good system of fibres." Please tell us how, or the difference.

How can I obtain Harris's "New England Insects?" At what price? What works on vegetable physiology can you recommend me to study? where to get them, and price? Has Dr. Lindley ever published any works of this kind?

[The above is one of the articles in the mislaid parcel of letters alluded to in our last issue. It has been a source of unmixed pleasure to have found it, for it happened to contain articles of much value. "Ventilation" has certainly got a very good idea of our meaning. His last article plainly discovered him to be a

person of an intelligent and investigating turn of mind, and hence our replies to his queries were mainly suggestive. The wisdom of the course we took is now fully apparent. "Ventilation" is right. The air in the green-house obtains ammonia not only in the way he supposes, from the earth, but the water used there in watering and syringing is richly charged with it, and from this source, not being fixed, it is constantly escaping. All observant gardeners know that recently fallen rain water is peculiarly beneficial to plants; it is simply because of the abundance of ammonia it contains. A vine or plant placed in the conditions named will thrive until the space becomes too small for it; but it will not thrive as it would in a green-house, unless some means be taken to give *motion* to the particles of air. We have had a number of applications in regard to our mode of making layers of the vine; but we purpose making a chapter of the subject in our "Hints on Grape Culture," and that chapter will soon be reached. Will you and others, therefore, have a little patience? It will need to be illustrated. Some publisher in Philadelphia undertook to get out a new edition of Harris on Insects, but we have not yet seen it. The old one can be purchased of Mr. Saxton. We do not know the price. We would advise you to read Wilson's Jussieu and Lindley. You can procure both through Mr. C. M. Saxton, of New York. We shall be glad to hear from you again.—Ed.]

PRESERVING THE SWEET POTATO.

BY RURALIST.

Many and various articles appear in our agricultural and horticultural journals of the day upon the different races of the vegetable kingdom; but strange it seems to us, that thus far we have not been permitted the pleasure of a treatise upon the preservation, during winter, of the sweet potato. (I hope, Mr. Editor, that you don't think that this is not a horticultural subject.)

We are inclined to believe that a few words regarding this esculent will not come amiss to many readers; for, as easy as the cultivation and success attending it during the summer or growing months, so difficult becomes the entire success to keep them over winter, when the price would range highest; while at present they command exorbitant prices for seed, during spring, being frequently sent hundreds of miles, proving a negligence in our nurserymen or our intelligent farmers, to the agricultural interests of their neighborhoods.

Several trials have been made to transport them from this part of the country over the plains to Pike's Peak, in the fall of the year. The only method that has met with success is the following: They are carefully taken up, and the ground adhering is washed off clean; they are then dried until they are perfectly so; then wrapped carefully in fine paper, just as our grocers receive their oranges.

For the last few years the writer has been experimenting in keeping them, so as to have them fit for market or the table any time during the winter, with only partial success, and hopes those who have had some experience will let their light shine, so that all may see. It is said that we are a progressive people; we therefore desire to learn all we can, if not for our pecuniary benefit, at least to make the saying true. The method with which we have been most successful is the following: We dug a cellar under a warm room; the sides of our cellar are lined with boards an inch thick; back of the boards are rammed in ashes and lime, to aid in absorbing the moisture that may spring out of the earth; in the bottom of the cellar a coating of cement is put on, also to insure dryness.

The potatoes are placed in bins sixteen or eighteen inches in depth. We place the potatoes as follows: Commencing in the middle of a bin, laying down first a few, then placing the others, or rather setting them, against those, forming a cone; then pouring dry sand over them until covered, placing potatoes against the sand (as before) until the bin is full. Concerning all potatoes, to persons who have not sand handy, dry coarse dust will answer as well. The object of placing them endwise in a conical heap: we find that in sweating the moisture passes off more readily, though they should be permitted to undergo a sweat before stowing them away. The temperature, if possible, should range between 45° and 60° Fahrenheit. We have preserved them in this manner, and used them during winter until April, (and probably could a month longer, if desirable,) good as they are in the fall, fresh from mother earth.

The main object in having all things dry is, first, it appears that none can possibly be kept when there is any moisture, except such as comes from sweating; secondly, if any should rot, being dry, they will not so easily infect others.

Should any be much wilted, freshness can be restored by placing them in moist soil a day or two before using.

[“Ruralist” has, no doubt, adopted an excellent plan for preserving the sweet potato during winter. We have kept them in small quantities, for seed, by packing them in sand in a barrel, and placing the barrel in a dry cellar. The per centage in loss has been little or nothing. The plan of “Ruralist” will enable us to keep them in large quantity for family use, as well as for seed. But, Ruralist, why did you not “catch the hare before cooking it?” in other words, why did you not tell our readers how to grow sweet potatoes before telling them how to preserve them. Can you not do so yet?—Ed.]

THE DUCHESSE D'ANGOULEME PEAR.

(*See Frontispiece.*)

BY THE EDITOR.

We have lately received a number of letters, asking why we do not figure some of the old and better known fruits, within the reach of all, instead of new ones, which only the few can get, till they become common. While we think such illustrations should be confined chiefly to new and desirable kinds, there is no reason why some of the older kinds of merit should not from time to time be given. It is true that many of the old ones have been illustrated in works on Pomology, but these are seldom or never seen by the great mass of readers of our magazines.

To meet the case of these last, and in response to the letters above alluded to, we this month give an illustration of the Duchesse d'Angoulême pear, taken from a specimen exhibited at the Brooklyn Horticultural Society. The specimen is of fair medium size. We have raised specimens weighing 36 ounces. We on one occasion exhibited at the New York Horticultural Society three pears from the same tree, weighing 28, 34, and 36 ounces. The tree was growing on quince stock, and was five years old from the bud. This will give the reader some idea of the great size it sometimes attains. We must add, however, that in the case alluded to above, it was not done without artificial means; and by these means we have grown the Bartlett on quince to weigh 16 ounces.

The Duchesse d'Angoulême is very large, oblong obovate, with a rough, uneven outline. Skin greenish yellow, streaked and spotted with russet. Stalk one to two inches long, very stout, bent, and deeply planted in an irregular cavity. Calyx half open, and set in a knobby basin. Flesh white, buttery, juicy, with a rich and fine flavor. We have often seen it when we considered it nearly or quite first rate. It should only be grown on quince stock, when it is one of the best pears that can be grown for market. The tree is an upright and rapid grower, and very productive. The Duchesse ripens from September to November. It should be taken from the tree a week or more before it begins to color.

BIRDS AND INSECTS.

At this season of the year any thing relating to birds and insects can not fail to prove interesting, more especially when it is borne in mind that their economical relations to each other are becoming better recognized and appreciated. We therefore append here the following extract sent us by our Nazareth correspondent, elsewhere alluded to. It is in a very condensed form, and contains many valuable facts.

"At the late agricultural meeting at St. Gallen, in Switzerland, Baron von

Tschudi, the celebrated Swiss naturalist, dwelt on the important services of birds in the destruction of insects. Without birds, said he, no agriculture and vegetation are possible. They accomplish in a few months the profitable work of destruction which millions of human hands could not do half so well in as many years; and the sage therefore blamed, in very severe terms, the foolish practice of shooting and destroying birds, which prevails more especially in Italy, recommending, on the contrary, the process of alluring birds into gardens and corn-fields.

"Among the most deserving birds he counts swallows, finches, titmice, redtails, &c. The naturalist then cites numerous instances in support of his assertion. In a flower-garden of one of his neighbors, three tall rose-trees had suddenly been covered with about 2,000 tree-lice. At his recommendation a marsh-titmouse was located in the garden, which in a few hours consumed the whole brood, and left the roses perfectly clean. A redtail in a room was observed to catch about 900 flies in an hour. A couple of night-swallows have been known to destroy a whole swarm of gnats in fifteen minutes. A pair of golden-crested wrens carry insects as food to their nestlings upon an average thirty-six times in an hour. For the protection of orchards and woods, titmice are of invaluable service. They consume, in particular, the eggs of the dangerous pine-spiders. One single female of such spiders frequently lays from 600 to 800 eggs, twice in the summer season, while a titmouse with her young ones consume daily several thousands of them. Wrens, nuthatches, and woodpeckers often dexterously fetch from the crevices of tree-bark numbers of insects for their nestlings. In 1848 an immense swarm of caterpillars, of the well-known genus *Bombax dispar*, had destroyed all the tree leaves in the orchard of Count Casimus Wadzibi, who observed the stems and branches coated, as it were, with a heavy crust of millions of eggs, surrounded by a hairy skin. He employed scores of hands to scrape them off, but to no avail, and the trees were about to decay. Luckily, towards the winter, numerous flights of titmice and wrens frequented that part, and it was soon perceived that the nests of the caterpillars were visibly diminishing. In the spring time about twenty pairs of titmice made their nests in the garden, and in the course of the summer they had cleared the trees of all the caterpillars.

"M. Tschudi considers sparrows to be very useful birds, as one single pair usually carry to their nest every day about 300 caterpillars, an advantage that amply compensates for the cherries the birds steal in the garden. Owls also consume, morning and evening, vast numbers of wood insects. Some species of birds, such as starlings, jackdaws, rooks, jays, and speckled magpies, are distinguished for destroying maybugs or cockchafers. White, of Selborne, who devoted some time to the observation of the movements of a pair of common barn owls, found, among other things, that they often carried to their nest a mouse every five minutes; while another pair of great owls had carried to their nest in one evening in June no less than eleven mice. Most of the smaller birds feed, either entirely or partially, especially during the hatching season, on insects,

worms, snails, spiders, &c.; so do also the hedge-sparrows, woodpeckers, thrushes, fly-catchers, (*Muscicapas,*) wagtails, larks, &c.

"Without these useful birds, obnoxious insects would increase in such masses as to become a permanent plague in Europe, and destroy all fruit and vegetation, like the locusts in the East; and the farmer, in balancing the gain and loss accruing from these useful birds, ought to consider the latter in the light of domestic servants, whose cost of keeping is amply repaid by their services."

AMERICAN EVERGREENS.—NO. 3.

BY C. N. BEMENT.

The *Fir*, the *Pine*, and the *Larch*, says Baxter, constitute a perfectly natural demus or family, and, next to the Oak, are the most valuable of our timber trees; but independent of their nature in this respect, their beautiful foliage and magnificent appearance have at times rendered them objects of admiration and attention

"Of the four natural tribes into which the firs resolve themselves, the Silver Fir may be taken as the true representative of the first, the Norway Spruce of the second, the Larch the third, the Cedar the fourth."

All the firs are lofty trees, and are remarkable for the regularity and symmetry of their pyramidal heads. The leaves are solitary, needle-shaped, and rigid. They are distinguished from the other pines by the smoothness of their bark, in which are formed cavities containing their peculiar balsam, by the silvery whiteness of the under surface of the seemingly two-rowed leaves, and by their long, exact cones, formed of woody, deciduous scales, with a smooth thin edge.

The Silver Fir.—The name of silver fir is derived from the color of its leaves on the underside, which are shorter or broader and set thicker on the spray than those of other firs, and have a beautiful silvery appearance when the under side is viewed, or when the wind turns the branches from the eye; while the upper surface is of the brightest and handsomest green of all the species of fir.

This beautiful evergreen is a fine, majestic tree, and resembles the spruce in its regular pyramidal form. It differs from it in its bark, which is smooth when young, and continues so until the tree has attained considerable age; in its leaves, which are nearly flat, and of a beautiful silvery color beneath; and in having large upright cones. It has a strong resemblance to the silver fir of Europe, a much loftier and nobler tree. The American tree is known by the name of Balsam Fir. It is hardy, easily transplanted, and grows rapidly and with great vigor, and possesses in a high degree the most important qualities of the evergreens as an ornamental tree, a regular pyramidal shape, and rich, deep green. The large cones with which the upper branches are often loaded, give it additional

beauty. Its defects are its stiffness, and its raggedness, which it assumes in old age, which comes on early, as it is considered a short-lived tree. Its chief recommendations are its hardiness and its quickness of growth. It stands unprotected against the wind, when not blowing from the sea, better than any other tree, and grows on a bleak point where any other tree would be killed.

Double Balsam Fir.—This tree has so strong a resemblance to the common fir, that it is difficult, except by the cones, to distinguish them. They have the same habit, the same kind of bark, and grow in similar situations. The double fir has the leaves usually much more crowded, whence probably its name. It is not often, however, by the common people distinguished. The mature cone presents a ready and certain distinction. It is about half the length and two-thirds the thickness of that of the common fir, and the tracts or transformed leaves inside the scales of the cone, project, and end in a somewhat long point, like the point of a leaf.

From the great richness and luxuriance of the foliage, the double balsam is a very beautiful tree, and its leaves diffuse a peculiarly agreeable resinous odor. It has been successfully transplanted, and is valuable as an ornamental tree; but at the same time is considered one of the most delicate of the fir tribe.

The Balm of Gilead Fir.—This is also a delicate ornamental tree, but it rarely attains to any considerable size. This species and the silver fir are often confounded, but may be distinguished thus: The leaves of the silver fir are arranged nearly on opposite sides of the branch, comb-like. The under sides of the leaves have a white line running lengthwise on each side of the mid-rib, which gives them a silvery hue. The leaves of the Balm of Gilead fir are shorter, blunter, and stand nearly upright in double rows on the upper side of the branches; while in the silver fir they are flattened and irregularly single-rowed. Neither of these trees should be omitted in a lawn of any pretensions.

The Black Spruce.—The two species of spruce, the black and the white, or, as they are more commonly called, the double and the single, are distinguished from the fir and the hemlock, in every stage of their growth, by the roughness of the bark on their branches, produced by little ridges, running down from the base of each leaf, and by the disposition of the leaves, which are arranged in spirals equally on every side of the young shoots. The double is distinguished from the single spruce by the darker color of the foliage, whence its name of Black Spruce, by the greater thickness in proportion to the length of the cones, and by the looseness of the scales, which are jagged or toothed on the edge.

The trunk of the double spruce is perfectly straight, and regularly tapering from the ground to the top. The bark is smooth, covered with thin narrow scales, which on old trunks become roundish. On the smaller branches and upper part of the trunk, these scales are downward continuations of the leaves, and often come off with them. The branches are in whorls of four or more, but except on small trees, the whorls are not very distinct, in consequence of the premature decay of two or more of the branches, and the fact that between the whorls are oc-

casionally scattered single limbs. When a tree stands by itself in a sheltered situation favorable to its growth, the stages or whorls are regularly disposed, and diminishing gradually in length from the ground to the top, form a conical head of striking, regular, and symmetrical proportions. To the unpracticed eye, this mathematical exactness of shape is beautiful, and the spruce is a favorite tree, and is often placed in the near vicinity of houses. But to one studious of variety and picturesque effect, the regular cone becomes stiff and monotonous, and the unvarying dark green of the foliage has a sombre and rather melancholy aspect. But the dark foliage of this evergreen makes a fine appearance in winter.

The Black Spruce.—Few evergreens are more beautiful for ornamental plantation than the Norway Spruce. It has a character of its own, which is very striking and peculiar, and we may add in a high degree valuable. Its graceful appearance when single or scattered, is extremely spirited, wild, and picturesque; its regular pyramidal conical figure, its long horizontal branches reaching to the ground, extending from the trunk in a graceful curve, which gives additional beauty to its expression, renders it particularly attractive; it forms a beautiful object, and becomes a truly majestic tree; and when judiciously introduced into artificial scenery, produces the most charming and unique effect.

The Norway Spruce is admirably adapted to extensive lands and parks, where there is no want of room for the attainment of its full size and fair proportions. They should always be placed in wild, broken, and picturesque scenery, where they will appear perfectly in keeping, and add wonderfully to the peculiar beauty of the situation. On all grounds where there are abruptly varied surfaces, steep banks or rocky precipices, this class of trees lends its efficient aid to strengthen the prevailing beauty, and to complete the finish of the picture.

Whether as a single tree upon the grass, or as a standard in the shrubbery, towering above all others, it has great claims for us, and may justly be called a graceful and magnificent tree.

The Arbor Vitæ.—It would be unfair to deny a word of commendation for that excellent dwarf, the American Arbor Vitæ. With care in selecting specimens, and on the after treatment, it often makes a handsome tree. For screens and hedges it serves an excellent purpose, and grows rapidly. Beautiful specimens of this evergreen may be seen growing in great luxuriance on the margin of the Hudson River, between Fishkill and Poughkeepsie; also between the cities of Hudson and Albany.

It forms a pyramidal or conical shaped tree, densely branched, the leaves more delicate than its foreign cousins, and holding their bright color throughout the winter. The last is of great importance, in an ornamental view. Of its hardihood there can be no question, as it grows in the most bleak and exposed situations; it bears transplanting equal to the foreign varieties, and may be cultivated with equal ease.

The Evergreen Cypress is a native of California, and is undoubtedly one of

those gigantic coniferous trees attaining the height of 300 feet. In the forest it grows "as straight as an arrow," and is naked of branches to the height of 60 or 70 feet. The branches are covered with thick dark green foliage, and fall in rich festoons to the earth, and produce the most picturesque effect. Besides being one of the most ornamental evergreens, the Evergreen Cypress is one of the easiest reproductions.

There are many other evergreens which might be enumerated, but the foregoing will suffice, as examples to awaken an interest on the subject, and remind us, while we are eagerly collecting the productions of foreign lands, that our own fields and forests bloom with equal splendor.

With ornamental trees and shrubs we display the same weakness that we do in many other things, by importing too much. Living as we do in a country having a greater and more beauful variety of trees and shrubs than any other country in the temperate zone on the globe, yet we cling to that foolish vanity of purchasing the trees of foreign lands to that of our own. With our hundreds of varieties of evergreens, it is strange that we can not be suited at home, and give up planting such vile trash as the Silver Abele and Ailanthus.

We believe in ornamenting our homes with every thing that is useful or beautiful, whether native or foreign; but this giving preference to a thing that has nothing to recommend it but that of coming from a foreign country, is simply ridiculous, and we think there is no nation on earth that displays so much zeal in adorning with the products of other countries as we Americans do. Better close our sea-ports at once, and wrap ourselves up in our dignity, like the Japanese, than to be forever spending our time and money in gathering the productions of foreign countries, and neglecting those of our own.

EDITOR'S TABLE.

To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "THE HORTICULTURIST."

PEAR CULTURE.—We shall soon begin a series of "Hints on Pear Culture," and alternate these with our present series on the Grape. The Pear is a very important object of culture; and we have among our readers a large number of beginners to whom plain, practical directions for growing the Pear must prove acceptable. Other fruits will also claim our attention.

FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK.—The June meeting of this Society will be held at the Court House in Rochester, on Wednesday, the 25th day of June. These meetings are always very interesting, and we should be greatly indebted to Secretary Bissell for an abstract of the proceedings.

A NEW BOOK ON THE GRAPE.—Just as this form was going to press, Mr. Saxton, the publisher, laid on our table Mr. Phin's new book on the grape. We have only time to glance at it at present, but that glance impresses us favorably. It has been in the press, we learn, for more than a year past, and has received some four years of labor; it may, therefore, be assumed to be a work of an elaborate character. We shall try to find time to speak of its merits more in detail in our next.

BROOKLYN HORTICULTURAL SOCIETY—JUNE EXHIBITION.—This Society, encouraged by the results of its last exhibition, has determined to hold another some time during the third week in June, the season of roses and strawberries. A liberal prize list has been prepared, a good feeling prevails among the members, and a fine show may therefore be expected. Competition is open to all who choose to enter the lists.

THE GENERAL MCCLELLAN PETUNIA.—Mr. Cadness, of Flushing, has named one of his seedling Petunias after this talented chief. It is a large, bold, double flower of great substance, and handsomely mottled. It is the best thing of the kind that we have yet seen.

HOT WATER.—Our correspondent "Brooklyn," who furnished a description of his hot-beds in the February number for 1861, suggests as "an improvement

in the construction of water hot-beds, to run the pipes through open gutters, or the bottom of the casing be made water tight, to be kept always or occasionally filled with water, as might be desirable, according to the kind of plants grown." He further says, "Since writing the above, I find the same thing, and a still further improvement, in Hood on Warming. After speaking of objections to the tank system, on account of the difficulty of regulating the quantity of moisture, he says: 'It is probable that the most efficient way of applying hot water circulation, for producing bottom heat, would be by passing iron pipes through troughs made water tight, placed beneath the bed required to be heated, and filled with small loose stones. N. B.—These stones, when once heated, will retain their temperature for a great length of time, and by pouring water into the trough, vapor may be raised to any extent that may be required, the quantity being much or little, as circumstances may render desirable, or the heat may be continued without any vapor, whenever a dry heat is required.'" Our correspondent "Brooklyn" will no doubt be glad to learn that we have tried this winter something simpler and better with the most gratifying results.

Share's Coulter Harrow.—In our last we remarked that we had suggested the manufacture of a smaller size of this harrow. This, we are glad to know, has now been done by Messrs. Haines & Pell, and a most excellent implement thus made more generally useful.

Drought.—In New York and its vicinity we are suffering from a long-continued drought. Newly planted trees have felt its effects sadly, and many growing crops begin to suffer. We are looking wishfully for rain.

The Flood in California.—Mr. H. B. Eastman, writing from Lewiston, Trinity Co., Cal., under date of January 1, 1862, says of the then recent flood:

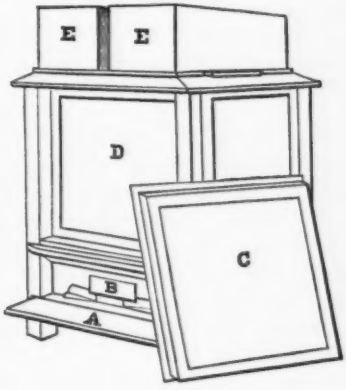
"The past six weeks I have had my hands full in trying to clear up the wreck caused by a most disastrous flood. You will have seen accounts of it in the California papers, and I will here say that the subscribers have felt its sad effects in all except life and limb. Our house stands upon what, in ordinary times, looks like quite an elevation, yet the river came within four feet of the house. Peach and Apple trees seven years old and twenty feet high, and standing upon ground that the waters has never before reached since the white men have been here, were this time all covered up with the flood. It was a hard sight to look on them, and it is not much better yet. Our whole nursery stock is buried from two to three feet deep with mud, which will, of course, have to be dug out and moved. A large portion of our last summer's budding of Apples and Pears, and a great many small things that will be difficult to find, and of larger things we (my brother and myself) had something near a thousand standard Apple and Pear trees planted out three years ago, but which at the present time are not ac-

cording to directions of 'Downing' or the HORTICULTURIST, for most of them are at least *two feet* deeper than they grew in the nursery, or in the field either, two months ago. We have them all to move, and next time will get them above 'high water mark.' I do not intend to get discouraged, though things do sometimes look a little blue. We have a fine climate to live in, and only one drawback to fruit culture to contend with; that is, late frost in the spring. Since I have been here, now eleven years, the thermometer has never been at a lower mark than 8 deg. above zero, *Fahr.* In summer it is frequently up to 112 deg., yet the heat is not oppressive here as it is in the Eastern States: we always have cool nights. I prize your Grape Articles very highly, and shall follow your directions as well as I can. I believe most of the American Grapes are hardy here." This is a sad picture, but we hope the mud may have so enriched your ground as to compensate you in some measure for all your loss and labor. If you follow our directions in Grape culture, we can promise you nothing but success.

A NEW BEE-HIVE.—Mr. Henry A. Baker, the agent for New Jersey, probably knowing we have a "sweet tooth," but for some time quite empty, has sent us Smith's Patent Wire and Straw Hive, which possesses some peculiarities that distinguish it from other hives in use. We have examined it with some interest,

Fig. 1.

Fig. 2.



since it is to take its place in our "collection." Two ideas prevail in its construction, ventilation and consequent coolness. Mr. Baker having just finished a very neat engraving, we have borrowed it to illustrate the subject. Figure 1 is the perfect hive, with one of the movable sides or sashes out. Figure 2 is a skeleton view of the same. The hive is composed of a frame with double sides, both

made of woven wire. The outer side or sash is movable, (as seen in figure 1,) and lined with straw. When these movable sides are out, the interior is plainly in view. The object sought for here is command of the temperature of the hive; but in addition to this, it affords the bee-keeper an opportunity of seeing what is going on inside. The hive can be used either with or without movable frames. The bottom is shaped like a "hopper," where the dead bees and dirt fall, and are easily removed. There is but little wood work inside to harbor the moth, and the wire sides being all movable, the presence of the moth can be readily detected. Withal it is a cheap hive, plain but neatly and substantially made. The engravings will give the reader a good idea of it without further description. We think we shall put her Italian majesty in this hive, if we can capture her among some of our friends. We shall report on both in due time.

State Agricultural Society, Kansas.—The war has not prevented the formation of an Agricultural Society for Kansas. We trust it has a long career of usefulness before it. The following are its officers: President, Lyman Scott; Secretary, F. G. Adams; Treasurer, Isaac Garrison; Executive Committee, E. B. Whitman, F. P. Baker, W. A. Shannon, C. B. Lines, J. C. Marshall, Martin Anderson, Thomas Arnold, J. W. Sponable, Welcome Wells, R. A. Vanwinkle.

Marion County Horticultural Society, (Indiana.)—The officers of this Society for the year 1862 are as follows: President, Dr. Geo. W. Mears; Vice-Presidents, D. V. Culley, J. S. Dunlop, J. T. Francis; Treasurer, S. V. Morris; Secretary, W. H. Loomis. The spring exhibition will be held at Indianapolis on the 4th and 5th of June.

That Coffee again.—We see by the *Country Gentleman*, the Ohio *Field Notes* and other papers, that the coffee plant alluded to in a previous number, has been identified. Seeds were sent to Dr. Warder, of Cincinnati, who found it to be nothing else than the Chick Pea, which turns up every ten years or less as a wonderful new thing. We think the Dr. has nipped it in the bud this time. The query of our Nauvoo correspondent was made and answered about three months ago, and given to the printer before Dr. Warder's article was seen by us, or we should have referred to it. That the plant was not the coffee plant was plain enough, though we could not then say what it was, not suspecting it was our old friend the Chick Pea, some of whose singular adventures we chronicled about twelve years ago.

Honor to Whom Honor is Due.—In the proceedings of the Brooklyn Horticultural Society in our last issue, Mr. Quin quotes the saying, "Prune in winter for wood, and in summer for fruit." These few and simple words tersely enunciate a most valuable pomological fact. The words are often quoted, but we believe that to Dr. Warder, of Cincinnati, belongs the merit of having given this

important truth its present axiomatic form. It is a peculiarly happy and expressive one.

Fruit Boxes.—We have lately received many inquiries in relation to fruit boxes, and, of course, have furnished the best information we could. Those who have such things for sale ought to have the good sense to advertise them. One of our correspondents, applying for information on the subject, says: "I appeal to you to forward the information *gratuitously*, although the careless fellows, by not advertising in the columns of the Horticulturist, do not deserve to sell their wares." That hits the nail flat on the head.

New Grapes.—A correspondent of the *Ohio Farmer*, F. R. E., (it will not be difficult to guess who that is,) describes the following new grapes. The Mottled and the Mary we have alluded to in a former number, the latter, however, not having been ripe. We should like to see them again. It would be nothing singular to receive the Isabella from Germany, for it has been grown and propagated there many years. F. R. E. remarks as follows:

"Among the many valuable grapes now before the public, the following have claims to favor equalled by very few. One, the *Aiken*, has been some years grown as a superior and early Isabella, but its description has never been printed; the other two are entirely new, and thus far have not been offered for sale.

"*Aiken Grape.*—The origin of this grape is somewhat obscure. While its foliage and hardihood make it a native of this country, we have testimony that the first vine of it now known was brought to Cleveland from Germany. About twenty-four or five years since, Rev. S. C. Aiken, of Cleveland, obtained a vine without name from a company of German emigrants; this he planted, and when it came into bearing, the fruit ripened some ten days or more before the Isabella, causing attention to be drawn to it by some few amateurs; but as the vine stood in a sheltered position in a city yard, and was well fed and cultivated, its superiority to the Isabella was considered rather the result of situation than a distinct variety. Years afterward, the writer had his attention drawn to it, and while he was unable to say what it was, he felt sure it was *not* Isabella. With this impression, he watched it in many places, for cuttings of it have been distributed and grown in various soils; the result is, that in no locality has he ever witnessed any mildew upon it, and invariably it has ripened its fruit a week or ten days sooner than Isabella, wherever grown side by side with it. *Vine*—Hardy, strong grower, productive, wood difficult to detect from Isabella. *Bunches*—Large, shouldered; very compact; berries, large, round, or nearly so; bright, glossy black, with little or no bloom. *Flesh*—Tender; pulp about the same as Isabella, juicy, sweet, and rich, with a pleasant aroma.

"*Mottled Grape.*—A seedling grown by Chas. Carpenter, Esq., of Kelley's Island, that promises qualities that, for extensive growing, will render it more de-

sirable than the Delaware. *Wood*—Reddish-brown; joints two and a half to four inches; leaf, five-lobed, downy underneath. *Bunches*—Close, compact. *Berries*—Round; medium size; purplish-red, with spots that, when held to the light, give a mottled appearance; hence its name. *Flesh*—Tender; pulp, small; juice, sweet, rich, abundant, with a sprightly character that keeps good even long after ripe. *Skin*—Rather thick, or, perhaps, as much so as Catawba. Ripens with the Delaware, but will hang a long time without shriveling or dropping. As a table grape, it will please those who like a well-ripened Catawba; and as a wine grape, it gives promise of superior excellence.

"*Mary*.—This is another seedling, grown by Chas. Carpenter, Esq., that promises to become a superior table grape, ripening about the same time as Isabella. The vine is perfectly hardy, and a strong grower; wood of a pale-red; joints, four to six inches; leaf medium size, dark-green, five-lobed, rough underneath. *Bunches*—Large, long; sometimes, not always, shouldered; neither very compact, nor yet loose. *Berries*—Medium size, round, greenish-white, with a fine white bloom; translucent, long pedicels. *Flesh*—Tender; pulp, very slight; juice, abundant, rich, sugary sweet, with a brisk, pleasant flavor, that, eaten in comparison, make it superior to most varieties at its period of maturity. As a choice table grape, of its color, this variety promises more than any one we have before met of its age; the past season having been its second year of bearing, and the vine, so far, having had little or no cultivation. Experience, heretofore, has shown that the grape does not exhibit its best qualities under four or five, or more, years of fruiting, and that too with good culture."

Fruit Boxes again.—A good box for transporting small fruits to market is now very much needed, and we have almost daily inquiries for them; but as yet we have not seen one free from objections, though there may be such. We will state the requirements for a good box. In shape it should be square, that there may be no loss of room in packing the boxes in the crate. There should be a space of about half an inch under the box; that is to say, the sides should extend half an inch below the bottom, which will allow the boxes to be packed without shelving of any kind. The material should be very light, to save freight. It should be securely fastened together, that it may be durable. It should be cheap; so cheap, indeed, that the box may go with the fruit when it is sold, if need be, or that its loss will not be felt if it is not returned. These are the principal requirements, and we know of no box that meets them; when we do, it shall have a prominent place in our "Table." The Oneida box is cheap and durable, but it is faulty in weight, and especially in shape. Halleck's box is good in shape, but very faulty in weight. Flower-pot boxes are all wrong in shape, and some of them drop their bottoms even with careful handling; others do not. Can not somebody "invent" a good, durable, and cheap fruit box? When "somebody" does, we should like to see it filled with fruit.

Stump Fences.—In Western New York stump fences are quite common. Having tried many means, ineffectually, to destroy these remnants of the primeval forest, the people at last devoted them to the useful purpose of inclosing their farms. They are very durable, and their appearance would seem to be enough to frighten cattle from all attempts to get through them; but they really could not, if they tried ever so hard. These fences, when well put up, are at least picturesque, if not beautiful; they could be made to take on the last attribute to a very considerable degree by covering them with creepers. For this purpose, we can think of nothing better than the Ampelopsis hederacea, a rapid grower, and hardy. These fences, covered with Ampelopsis, hanging in graceful festoons from the long roots, would present a very beautiful sight during the summer, and in autumn and early winter would be all aglow with brilliant tints. We suggest that some of our Western friends, with an eye for the beautiful and picturesque, plant their stump fences with the Ampelopsis.

Late and Destructive Frosts.—We record, with deep regret, the occurrence of a severe frost on Sunday morning, May 25th. We find, through our correspondents, that it prevailed over a wide extent of country, and proved very destructive in some localities, especially to fruit. We hear of it in New Jersey, New York, Pennsylvania, Connecticut, and many Western States. We have never known a season open with a finer prospect for an abundant crop of fruit; in many localities the scene is now sadly changed. In some places the grape crop has been quite destroyed. The following extract of a letter from Mr. Griswold, of Vernon, Oneida Co., N. Y., agrees with statements received from many other sources.

"We have just experienced one of those freaks of weather for which our climate is so noted. I had supposed that Central New York, after so cold and backward a spring, had passed all danger from frost for this spring, but it seems we are often liable to disappointment. We had been having very warm weather, the thermometer reaching over 80°, when it took suddenly cold Saturday night, the 24th. We had a severe frost, killing corn, cucumbers, tomatoes, and many other vegetables; cutting grape vines completely down, (the growth made this spring,) injuring currants, gooseberries, pears, and, I am afraid, all kinds of fruit. It was so severe as to completely kill the leaves on a ginko tree and a sophora, and about half of them on a tulip tree; entirely on a wistaria, and the tips of a dielytra, and many leaves on the horse chestnut.

"It fairly makes us feel a little blue, when we had been anticipating so much, the promise for fruit of all kinds never having been better, the trees being completely white with the blossoms. I sincerely trust we are the only part of the country which has had to suffer."

Prize Essays by the American Institute.—We learn that the American

Institute is about to offer valuable prizes for the best Essays on the cultivation of various kinds of fruit, such as the Pear, Grape, Strawberry, &c. It will also offer a valuable prize for the best seedling Pear, Apple, Grape, &c., not yet disseminated. In regard to the last, we hope the prize list will be so worded as to exclude all inferior seedlings, without regard to competition. The Judges should be very carefully selected, and instructed to rule out promptly every specimen not reaching a specified standard of merit. It is only by a stringent course of this kind that the endorsement of the Institute can be made to assume any value whatever; it is due alike to the public and the character of the Institute. The prize list for seedlings should not only be circulated freely in circular form, but as freely advertised in the horticultural press. In regard to the Essays, the prize list should be put in the horticultural journals at once, and kept there for several months, in order that it may meet the eyes of all interested in such matters. There is no credit to any body in keeping such matters concealed; they should have the widest publicity. Heretofore this prize essay business has been badly managed. It has only come to the knowledge of a few, and these few have learned of it so late as to be compelled to treat the subjects in a very hasty and imperfect manner. The requirements of each essay should be distinctly stated, so that each one may know what he is expected to furnish. Properly managed, the Institute may in this way secure a valuable series of papers for its Transactions. We know the managers to be men disposed to do every thing in the right way when this is made apparent to them, and we therefore make these remarks for their guidance. We wish, at the same time, to give the matter publicity, that it may early meet the notice of those most likely to engage in competition of this kind.

How to Pick Strawberries.—It has often occurred to us that the usual method of picking and sending Strawberries to the table is by no means the best that could be devised. In taking off the stems and calyx the berries are much bruised, and their appearance by no means improved. In the case of small berries, there may be some excuse for removing the calyx, but all large berries should be placed on the table with the calyx and a portion of the stem. They should be eaten one at a time, and each person allowed to apply sugar and cream or not, to suit his taste. We hope to see the day when Strawberries will be grown with such a happy combination of flavor and sweetness, that no auxiliary in the form of sugar will be needed to make them palatable; sugar, indeed, smothers and destroys the natural flavor of the fruit. We already have berries sufficiently large to fill any mouth of decent dimensions. In regard to marketing, there can be little doubt that berries with the calyx on will sell more readily than others; they can certainly be sent to market in better condition.

Correspondence.

MR. PETER B. MEAD: *Dear Sir*,—Being a subscriber to your (valuable to me) HORTICULTURIST, you will pardon the liberty I take to ask you, through the columns of your paper, a few questions.

I have erected a small grapery with border all inside, and planted my vines, which have commenced growing. 1st. Will it be prudent to sprinkle the border through hose from the hydrant, in which I find the water early in the morning to be about eight degrees colder than the surrounding atmosphere. 2d. What advantage is there in growing young canes to the top of the house to be cut away at fall pruning? Would you not get better eyes near the base by pinching the leader about the 1st of August? Owing to shade in middle of house, can you not get as large a crop off two rows of vines as to have a centre row? Yours

Mercer County, May 5th, 1862. A NEW BEGINNER.

[Early in the season we prefer to have the water as near as possible to the temperature of the house; but a little later, or when the vines have got well started, a difference of eight degrees amounts to nothing. Hold your finger partly over the pipe, so as to break the water into spray, that it may become as thoroughly aërated as possible. If your house is small and your vines vigorous, you can not prevent them from going to the top without incurring the danger of bursting your buds. It is a good plan, however, to break down the leader about a foot from the end during the last of August or beginning of September, whether the vines, have reached the top of the house or not. This helps to ripen the wood and develop the buds. A row of vines may be grown in the center of the house for three or four years, but should then be removed.—ED.]

MESSRS. MEAD & CO:—*Gents.*,—Inclosed I send you a twig of the Peach with *something* attached that has *never before* come under my observation, and by an examination of the tree I find a few more on the small branches, but *none* on the *larger ones*. Will you be kind enough, in the May HORTICULTURIST, if not already full, to give some little light as to what they are, and *what sort of an animal* gets up such work, and much oblige your obedient servant, C. W. H.

Newark, N. J. April 17th, 1862.

[The "something" is a remarkable species of Coccus, which we have never before seen on the Peach. We wish to compare it with some in Mr. Casilaer's

collection, and will then try, with his assistance, to throw some additional light on it. In the meantime you should get rid of them as speedily as possible, for they are "regular suckers."—Ed.]

In Elliott's "Western Fruit Book," 4th Edition, I see the following description of *La Caucasse Currant*, viz.: "New variety; vigorous, upright shoots, bunches very long, often 7 *inches*, with berries 2 *inches* in circumference, (a fraction over $\frac{4}{5}$ inch in diameter,) sprightly, mild acid, promises valuable." Now please inform me if it is really of such dimensions, and where it can be obtained.

Altoona, Pa. Please oblige, respectfully, J. B. L.

[La Caucasse Currant is comparatively new, and as yet but little disseminated. We have not seen it of the dimensions mentioned, but have no reason to doubt that they may sometimes be attained. You will be disappointed, however, if you look for such dimensions as an average. The variety is advertised, we believe, by Mr. Wilder and Mr. Hovey.—Ed.]

Dear Horticulturist.—At last we have been released, as it were, from prison, and are coming into the sunlight of literature. We feel quite like as if we had kept a fast from the good fresh mental food in the line of horticulture; therefore, our appetite being extra keen, do please forward us the Journal and all the back numbers since last May, at which time they stopped. I can not in a volume tell all the cruelty and devastation that has been enacted here since the war commenced, but our own family has been spared more than any other I know of, which I attribute, in some measure, to our vocation being Horticulture. I will defer till another season a description of the fruiting of some twelve of Rogers's hybrid grapes, which fruited with me last year in the open ground. They so far promise to be far better than any hardy grapes yet fruited here. A very poor apple crop here last year; not one quarter of a peach crop; some pears; small fruit, as usual, more abundant. Our friend Berckmans, of Georgia, wrote me some time since that he was so pleased with the Taylor grape, in bearing with him, as to be induced to plant one acre of it this spring. It grows well here, but we have not fruited it yet. The past winter has been peculiar here; cool enough to keep the buds back, and warm enough not to kill the fig trees unprotected but very little, scarcely injuring the most tender roses in the least. Thermometer once got to 6 deg. above zero, but soon moderated. The first winter month it was often cloudy, but one slight storm fell all the month, and the mid-winter months only had one and a half days that were clear, and the last winter month was cloudy, and the strongest wind ever felt, to my memory. The

prospect for fruit here is better now than it has been, I think, for some ten years past. The peach buds are just showing enlargement; ground froze a little last night. Thy hungry friend, OLIVER TAYLOR.

[The above from our old subscriber, Oliver Taylor, of Purcelville, Loudon Co., Va., we give as a part of the history of the times. It is pleasant to observe, in the midst of so much cruelty and suffering, that Mr. Taylor thinks his profession of horticulture gained him some immunity from general pillage. We welcome Mr. Taylor within our fold again with unfeigned pleasure, and trust the day is not far distant when the HORTICULTURIST will move again in all its old channels.—ED.]

DEAR MR. EDITOR,—So we are to have some plain practical talk in the HORTICULTURIST about flower culture? This is far better than turning yourself into a pollywog. I sincerely thank your correspondent for drawing you out. I had long thought of trying to do it myself, but confess I was afraid that my letter would be thrown into that great basket of waste paper under your table. Since, however, you take it so kindly, I am ready to add my commendations, provided you will not call me horrid names, or try to make fun of me. If you do I will give you what Miss Slidell gave Mr. Fairfax. (N. B. If you publish my letter you can leave this part out.) Women (I know of but one exception, and she is—not married) all love flowers, for they blend their fragrance and beauty about our homes, grace our family gatherings and our bridals, representing love and friendship, and we lay them upon the altar and the grave as emblems of faith and purity. Teach us, then, how to make them more beautiful, and how to produce them in abundance. Let us cultivate them *as flowers*, and if possible avoid the Greek and Latin names. Last season I purchased a new variety of "Ipomea," and handed them, with other seeds, to a young friend to plant. When they came up I remarked that the spot was a bad selection. He replied, "If you had told me it was a *Morning Glory*, I should have known where to plant it." When I buy a choice seed or flower, I wish to know how to cultivate it. The florists' hieroglyphics, h. h. p., is insufficient. Half-hardy-perpetual does not tell the whole story, and my books on flowers suppose me to have been educated in the garden. Can you tell me how long I am to cultivate a wall flower to assure its bloom? I have one in the house two winters, and have nursed it in the flower beds as many summers. I shall look for your articles on parlor plants with much solicitude. Instruct us in the rudiments. I confess I am a new beginner. My age I shall not tell *you*, or any body. FLORA ANN.

[Yes, Flora Ann, we propose giving some very plain articles on the culture of flowers, with the hope that you and other friends may be benefited by them. You

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know it is just like the girls to draw us out; they are always drawing us out, and sometimes we feel very long and slim. Send us the woman that don't love flowers; we won't keep her long; we only want to see how such a singular being looks. You ought not to have a wall flower a single year without flowers; but if you have had one two years without yielding its bloom, we would keep it till it did, and in the mean time prune it severely, root and branch. *Now* is a good time to do it. So you won't tell us how old you are. Very well; we know that *children* don't mind telling their age.—Ed.]

Peter B. Mead, Esq.: *Dear Sir*,—Having observed in the Horticulturist for January, under the article "*Cold Vineries*," that your correspondent objects to the use of tan for filling in between the boards as having a tendency to dry rot the frame work, I should like to know if you endorse this assertion, and if so, what kind of filling would be proper.

I am about to put up a small green-house (frame) 12 × 14, just large enough for a lady to attend to herself. I propose to board up each side of the posts and to fill in with dry tan. But your correspondent's statement has caused me to hesitate, and to postpone further operations until I can have your opinion.

I propose, also, to coat the ends of the posts, which are chestnut, with gas tar, plastering it on with a mason's trowel, instead of applying it in a boiling state, which is troublesome. Will this preserve them from decay?

What is the best mode of heating a green-house of the above size?

Any information which you may please to communicate will be thankfully received by

A Constant Reader.

[The above was thought to have been answered by post; but we now find that the wrong party was addressed. Hoping it may not be too late, we answer it here. We have found tan not to rot the frame work more than a great many other substances, when put in thoroughly dry; in fact, we have found the frame-work to rot soonest with no filling at all, unless the frame work was protected by paint. Of all the fillings we have used, dry charcoal dust is the best. We now never put up a grapery or green-house without having the wood work, inside and out, and in *all* its parts, well primed *before* the frame is put together. We include in these remarks all wooden foundations as well as the frame proper. We do not, however, recommend any but brick or stone foundations. Last February we put in a wooden foundation for a house, (it was too cold to work in mortar,) and painted the planks on both sides with coal tar before putting them in. This is the best method we know of. It has no filling in. You will do well to cover with coal tar *all* wood work that comes in contact with the earth. The best mode of heating is by hot water pipes or a tank.—Ed.]

To the Editors of the Horticulturist:—*Gentlemen*,—Will you have the kindness to inform me, through the columns of your Journal, the best way of making wine; I do not mean on a large scale, say only from four to six gallons. Also the kind of grape which will produce the best wine. Any information you can impart to me repecting its manufacture will be kindly appreciated by

Yours very respectfully, &c., Harvey T. Manning.

Baltimore, May 5th, 1862.

[We have had many applications for information like the above, showing clearly that grape culture and wine making are taking a deep hold on the mind of the horticultural community. Wine making will form a part of our series of articles on Grape Culture, and we have felt loath to anticipate that part of the subject, being desirous to have it come in in its natural order. We are almost tempted to depart from our plan, though assured that it is the only proper one; we will reconsider it, however. In the meantime, you can not do better than follow the directions of Judge Reid in our last number; they are among the very best yet published, though somewhat deficient in detail. You, of course, will do every thing on a reduced scale. Procure, therefore, a tiny little cask for your must, and a glass siphon for carrying off the gas; the last you can get at any glass warehouse. Be sure not to add a particle of sugar to the juice, but begin with the determination to make *pure* wine. If you open the door for one thing, many others will be sure to follow. The Delaware, Diana, Catawba, Lincoln, and others of that class will make good wine. The Isabella and its family connections you had better let alone for wine-making; for if experience is worth any thing, you will certainly fail in making good wine of them. All the Isabella wines in the market are adulterations. For wine, we advise you to take the grapes in the order in which we name them. We may give you an elaborate article on the subject sooner than we anticipated.—Ed.]

BROOKLYN HORTICULTURAL SOCIETY—SPRING EXHIBITION.

The spring exhibition was held at the Academy of Music. Having been unable to attend, we are not able to speak of the character of the exhibition personally, but it is represented as having been eminently satisfactory, and very encouraging to future efforts. Fine plants were exhibited from the collections of Messrs. Bearnes, Langley, Hoyt, Stewart, Menand, Buchanan, Chamberlain, Dailledouze & Zeller, Cadness, and others. The attendance was large, and the receipts were greater than was anticipated. The following is a list of the prizes awarded:

For the best collection of plants, David Fowlis, gardener to E. Hoyt, Esq., Astoria, L. I.

Second best collection, Gustavus Messenberg, gardener to Henry M. Bearnes, Esq., Lee Avenue, Williamsburgh.

Best Ferns and Lycopodiums, Louis Menand, Albany, N. Y.
Best Cacti, Wm. Grant, gardener to Wm. Vandeventer, Esq., Astoria, L. I.
Second best Cacti, Louis Menand.
Best Verbenas, Wm. Poynter, Brooklyn.
Best six stove or green-house plants, Louis Menand.
Best three stove or green-house plants, Louis Menand.
Best specimen stove or green-house plant, George Hamlyn, gardener to Wm. C. Langley, Esq., Bay Ridge, L. I.
Second best specimen, Louis Menand.
Best six variegated or ornamental leaf plants, Gustavus Messenberg.
Second best six variegated or ornamental leaf plants, Louis Menand.
Best specimen, Louis Menand.
Second best specimen, Gustavus Messenberg.
Best two Orchids, Isaac Buchanan, Astoria, L. I.
Second best two Orchids, Louis Menand.
Best specimen Orchids, Isaac Buchanan.
Best six Azaleas, Thomas Templeton, gardener to "The Large Estate," Brooklyn.
Second best six Azaleas, Louis Menand.
Best three Azaleas, Louis Menand.
Second best three Azaleas, J. W. Degrauw, Esq., Brooklyn.
Best specimen Azaleas, George Hamlyn.
Second best specimen Azaleas, Louis Menand.
Best four Ericas, Louis Menand.
Best two Ericas, David Foulis.
Best specimen Ericas, George Hamlyn.
Second best specimen Ericas, Louis Menand.
Best six Pelargoniums, George Hamlyn.
Best eight varieties of Roses, W. Poynter, florist, Brooklyn.
Second best eight varieties of Roses, Gustavus Messenberg.
Best six varieties of Roses, W. Poynter.
Best three Fuchsias, Gustavus Messenberg.
Best four Gloxinias, Henry Tanner, gardener to J. S. T. Stranahan, Esq., Brooklyn.
Best Colored Stockgilly, J. W. Wood, Washington Heights, N. Y.
Best specimen annual flower, Gustavus Messenberg.
Best four Monthly Carnations, Dailledouze & Zeller, florists, Brooklyn.
Best twelve Pansies, Mrs. John Humphries, florist, Brooklyn.
Best collection of cut flowers, Gustavus Messenberg.
Best twelve cut Roses, Wm. Poynter.
Best parlor or table bouquet, James Weir, Jr., Bay Ridge, L. I.
Best pair hand bouquets, Thos. Templeton.

Second best pair hand bouquets, James Mallin, florist, Brooklyn.
Best dish of Strawberries, Henry Tanner.
Best six heads of Lettuce, Thomas Prosser, Jr., Bedford, L. I.
Best six stalks of Rhubarb, Thomas Prosser, Jr.
Best twenty-five Radishes, Thos. Prosser, Jr.
Best and most correct labelling of plants, Louis Menand.

SPECIAL AWARDS.

To Isaac Buchanan, for a fine collection of Orchids.
Henry Tanner, for a dish of string Beans.
Isaac Buchanan, for a new seedling Petunia.
John Cadness, florist, Flushing, for a new seedling double Petunia, Gen. McClellan, very large and beautiful.
A. G. Burgess, florist, East New York, for two unusually large specimens of Daphne cneorum.
A. C. Chamberlain, florist, Brooklyn, for a fine and large display of his patent moss baskets, containing fruit trees and flowers.
Mrs. John Humphries, large basket of plants in flower.
Mr. Pardessus, Wardian cases.
Dailledouze & Zeller, for a display of monthly Carnations.

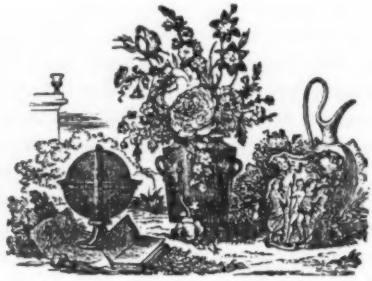
Brooklyn Horticultural Society—Conversational Meeting.—The Society held its regular Conversational Meeting at the Athenæum on Tuesday evening, April 23d, President Degrauw in the chair. The evening was occupied mainly by Dr. Trimble, of Newark, N. J., with a very interesting lecture on "Insects injurious to Fruits," especially the Curculio. Not having been present, we take the following account from the *Brooklyn Eagle:*

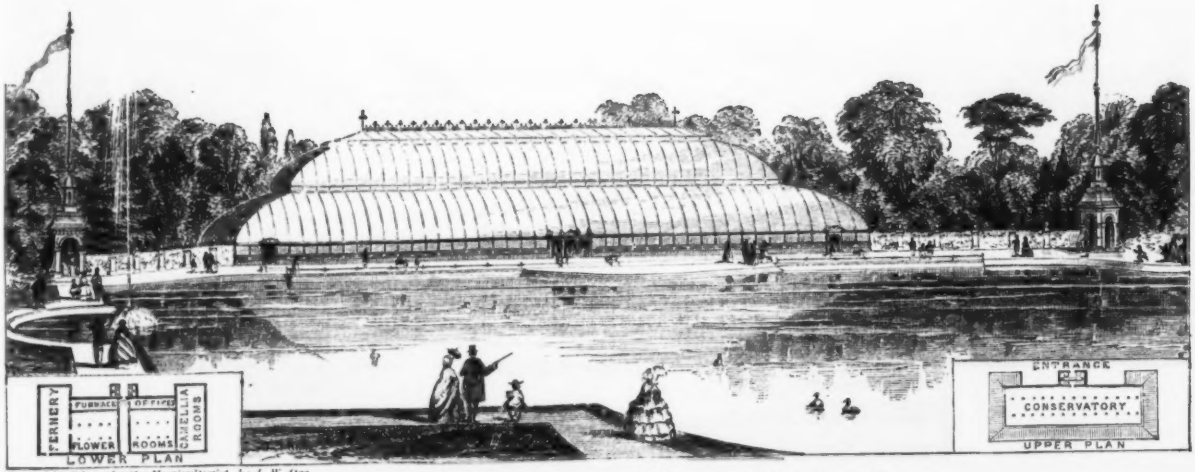
"This little insect, (the Curculio,) about the size of a house fly, attacks all the apricots, plums, and nectarines, and three-fourths of the apples. The apricot is as hardy as the peach, lives longer, and bears every year, but is seldom seen because cut off by this insect, not from any preference the curculio has for the apricot, but because it blossoms before any other fruit, and therefore is more exposed to its attacks. None of the remedies published in the papers as 'curculio remedies' are of any use; smoking the trees is no use, because the insects flies away and returns again. Mr. Thomas's plan of placing sheets under the tree, and jarring the tree with a mallet, has some effect, for the insect, when the tree is shaken, folds its wings and lets itself drop to the ground, where it remains, looking like a dead plum bud, till you leave it, when it flies back to the tree. This plan is very troublesome, and has to be often repeated. The curculio stings the fruit and deposits its eggs in it; these eggs hatch into grubs in five days; the grub

feeds on the fruit till it falls, when it works its way out and enters the ground, whence it soon emerges as a beetle, and lives in the bark of the tree till next spring. The most effective protection is to have your trees so that hogs may be let in among them to eat the fruit as it falls, and the insect with it. If you have no hogs, gather your fruit by hand, and if you can not do that, cut your trees down. The knot in plum trees is caused by the curculio. There are some insects that come at stated intervals, and others that are very uncertain. The coming of the seventeen year locust may be calculated with great certainty, but grasshoppers, Hessian flies, and caterpillars come suddenly, and as suddenly vanish. All the caterpillar class and many of the flies have enemies called ichneumon flies or parasites; these flies deposit their eggs in the living bodies of insects; these eggs hatch, and the grubs feed on the insect, gradually exhausting it, but touching no vital part, till at last the insect gives up. Our pine forests are saved by these flies, which destroy the borer. Dr. Trimble does not think that our shade trees will be much infested by the inch worm this summer, as the ichneumon flies are helping us with them.

"Mr. Brophy gave some remarks on ants and their pro-slavery notions.

"The President, Mr. Degrauw, stated that to-morrow their exhibition took place, but it might be the last one they would have. The society has been in existence nine years, but its list of members has fallen off so, that unless the friends of horticulture would help it it would have to give up, and Brooklyn will lose what she will have hard work to get back again. The terms of membership are only three dollars a year, admitting to several general exhibitions and twenty-four conversational meetings. Surely the people of Brooklyn will not let it die out. The next meeting will be on the 2d Tuesday in May. Subject—'Native Fruits, Flowers, and Shrubs.'"





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GENERAL VIEW OF PROPOSED CONSERVATORY, CENTRAL PARK, N. Y.